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FEBRUARY, 1882.

IN THE FLOWER and the kitchen garden the advantages of having strong young plants in readiness to set in the ground as soon as the frosts leave in the spring are so great that various expedients are resorted to to effect this end. What is most reliable is a good propagating house, supplied with boiler and pipes, and heated by means of hot-water; but this for small gardens is not thought of, and the most available appliance practical everywhere is the hot-bed. A good hot-bed skilfully used is capable of great results in the garden, and those who aim to accomplish the most therein cannot neglect it. Fresh stable-manure and long litter form a material in which rapid fermentation can be readily induced and continued through a period of several weeks, affording a gentle and steady heat. This substance is also the most readily available, and, consequently, is what is almost universally employed for the purpose; decaying leaves and spent hops can be similarly used when they can be obtained.

The location of a hot-bed is an important consideration. It should be convenient, or easily accessible, as it will require little attentions frequently, which it would be impossible to give it unless placed where it can be reached without delay. It should be on dry or well-drained ground, and sheltered from the

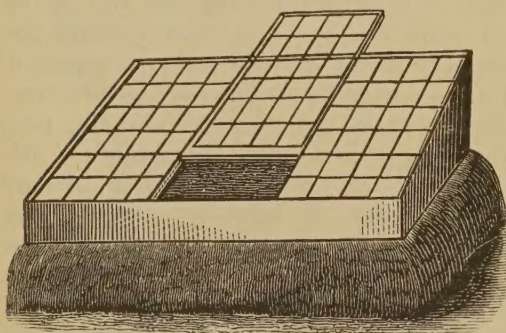
prevailing winds at least, and be fully exposed to the sun.

The wind has great effect in driving the heat out of a pile of manure, and even the ordinary motion of the air when no wind is perceptible, but which is a constant current, renders unavailable an immense amount proportionately of the heat generated. To reduce the amount of heat thus lost, recourse is had to shallow pits, about eighteen inches deep, in which the manure is placed, having the top of the pile only six or eight inches above the surface of the ground when completed. Unless particular care is used in draining, the water is apt to settle in the pits, checking or preventing fermentation, and thus their use becomes injurious instead of beneficial. If kept dry, the pits are unquestionably of much value, and they can be kept dry by having a suitable drain to carry the water away from them, and then laying some rails or poles in the bottom, and over these a flooring of rough boards, so as to keep the manure a few inches above the bottom. Generally the pile of heating material is formed on the surface of the ground, and made so much larger than the frame to be placed upon it that it will extend a foot or eighteen inches away from the sides and ends of the frame. The large amount of material outside the frame is effective in retaining the internal heat. Early in the season it

is especially desirable to make the area of the pile considerably greater than that of the frame; later, when milder weather has set in, an extension of the bed by six inches beyond the frame may be enough.

In this locality, the middle or latter part of February is quite early enough to start a hot-bed for forcing early vegetables, and a month later gives ample time merely to raise plants for the garden; only market gardeners employ hot-beds earlier.

Having everything in readiness, draw fresh manure to the spot where the bed is to be, and place it in a circular or conical pile, packing it down in successive layers by treading on it every time it is raised a few inches. The pile can be finished off by rounding it over or drawing it up to a point. After a few days the heap will begin to heat, and steam will be seen to be rising from it; the heap should then be forked over, shaking out the straw well as it is handled, and again be formed into a pile as before. In two or three days it will again give evidence by the escaping steam that it is heating, and is then ready to be placed in final position for the bed. As the manure is now thrown into shape, it should be beaten down by the back of the fork, and thus packed so that there will be a uniform density of material, and the bed should be of a depth of two and a half feet. The frame should now be set on the pile and covered with sash. In

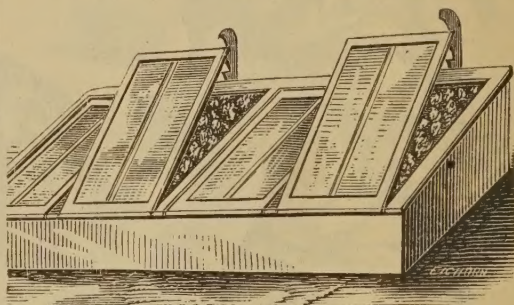


HOT-BED.

a few days a strong heat will be generated, and when this has begun to decrease so that the thermometer will not indicate more than 85° or 90°, about six inches of rich, mellow, and previously prepared soil should be placed over the surface within the frame. The bed is now ready for use.

As soon as the seeds have been sown, it will be necessary to watch the bed and

provide sufficient moisture by sprinkling as necessary with a fine-rosed can; and, also, to prevent the heat rising too high by opening the sash. A thermometer kept constantly in the bed will afford the means of knowing the temperature. When the sun is too bright, shade must



COLD-FRAME.

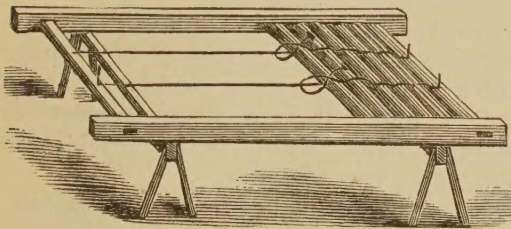
be given, and a covering of cotton cloth is usually found convenient for this purpose.

The frame for a hot-bed may be merely some boards nailed together, the end ones being properly shaped to receive the back and front boards, the former of which should be about eighteen and the latter twelve inches in width. But it will be found that a little care and skill exercised in making the frame may in the end be of material benefit. The joints should be tight, and the edges at back and front be beveled to correspond with the slope of the ends, so that the sash may slip easily upwards or downwards; the ends should rise above the side pieces as much as the thickness of the sash, or a little more, thus covering the crack between the sash and the frame. For ordinary use a frame holding three sashes will be found most convenient, and pieces of wood for bearings must extend from back to front at the ends, and where the edges of the sashes meet. A sash measuring thirty-eight by sixty-three inches has been found convenient and economical. It holds twenty-four lights of glass, each eight by ten inches—four lights wide and six in length.

In connection with a hot-bed a cold-frame is almost a necessity, and without a hot-bed it affords most valuable assistance in the garden. The cold-frame is merely a frame, such as used for a hot-bed, set on a bed of rich soil. As a protection from winds and a conservator of humidity in the air and of heat in the soil received during the day from the sun, it really gives the gardener the benefit of a genial

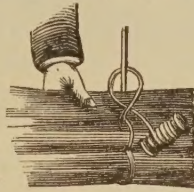
climate during the inclement months of spring. The cold-frame in most cases will receive young plants that have been started in the hot-bed. Here they can be transplanted at greater distances, giving them ample room to develop, and can be gradually hardened off to be ready to plant outside. In the absence of a hot-bed the cold-frame, employed when there is no danger of frost creeping in, may be used for all the purposes of plant-raising, the same as the hot-bed, only without the effect of accelerating growth to the extent of the hot-bed.

During cold, stormy nights, and often on cold, windy days, frames will require protection in order to keep up the heat. The readiest means of shelter is found to be the use of straw mats. These mats are easily made, and one can employ his time upon them in very cold or stormy weather, when nothing can be done to advantage outside. In order to make a good article and to work to the best advantage, it is best to employ a frame, such



as is shown in the engraving. This frame may be made of two pieces of two-by-four stuff for the sides, of the length required for the mat, and of two transverse pieces morticed into them at the ends. Four feet will be found a very convenient width for the frame. This frame-work can rest upon a pair of wooden horses, about two feet in height, in which position the labor can be most easily performed. In the engraving we have shown only two strings, but a mat of four feet width should have at least four strings, which will make the spaces between them about nine and one-half inches in width; closer tying than this even would be preferable. Screws are inserted at the proper distances on the cross-pieces, to which the strings are attached. The straw is placed on the strings so as to have all the butts, or lower ends, come against the sides of the frame, with the tops meeting in the middle, and so thin as to have the mat not more than three-quarters of an inch in

thickness when finished. The stitches should not be more than three-quarters of an inch in width. The tying string should be wound on a reel, and there should be one of them for each stationary string. The method of tying is shown in



the small engraving. Take a little of the straw with the left hand and work the reel with the right, first over the straw and then under the stationary string, bringing it back

between the two strings, pulling tightly and pressing the straw so as to have a flat stitch. In this way the work is continued until the mat is finished.

Next to having a hot-bed is knowing how to use it, and, though specific directions many and minute may be given, the knowledge that will be found of most value will be that acquired by experience. With the understood facts in relation to fertility of soil, to heat and moisture, both in the soil and the atmosphere, remembering that a range of the thermometer from 60° to 75° is what is needed for most growing plants, one must carefully, watchfully, and patiently learn the art of plant propagation.

THE HARDY CATALPA.

The western species of Catalpa, *C. speciosa*, is now receiving much attention from tree planters, and the probability is that its timber will be a product of great value. The planting of this tree increases every year. The peculiar value of the timber is its ability to resist decay; in this particular it is said to excel all our native woods, and very many instances might be given in proof of it. Numerous statements are on record of its use from twenty to fifty years for fence posts, in which cases there are no evidences of decay. For railroad ties it is thought it will prove to be of the greatest value, and the amount of timber annually demanded for this purpose is immense. The wood is comparatively light and "it is remarkable," says Professor SARGENT, of the Botanic Gardens of Harvard, "that so soft and light a wood as the Catalpa should possess the power of resisting decay to a degree almost unknown in the hardest and heaviest woods."

The same authority further says: "For the cabinet maker or the architect it will rank with North American hard woods, as the Cherry, the Black Walnut, the Ash, and the Butternut. The wood is close grained, very easily worked, and susceptible of an excellent polish. In color and general appearance it resembles Chestnut, but unlike Chestnut it is easily "filled," and shows none of the tendency to warp or start, which renders that wood unfit for the best cabinet work. It is, however, for fence and telegraph posts, hop and vineyard poles that the wood of the Catalpa has no known equal among extra-tropical woods. It is for these, and other employments, where a cheap material capable of resisting decay, when exposed to the action of the soil and weather, is required, that Catalpa can be more profitably employed than the wood of any other tree suitable for cultivation over so large an area of the United States. Catalpa wood seems particularly suited for the manufacture of coffins, for which purpose it promises to rival the famous Nan-mu wood of the Chinese; and it is not altogether improbable that before many years we may see large quantities of Catalpa exported to China to take the place of that scarce and high-priced material for the construction of coffins. Much has been said in various quarters of the excellence and durability of Catalpa railway ties. Of the power of this wood, when so employed, to resist decay, there can be no doubt."

That the Catalpa is a rapid-growing tree all testimony concurs.

The young plants are easily raised from seed; as soon as the earth can be well prepared in the spring and has become warm the seeds can be sown thinly in shallow drills, that need to be only far enough apart to admit of the cultivation necessary to keep the ground clean. Cover the seed about half an inch deep and it will soon germinate.

The young plants should be kept carefully free from weeds all summer, and in the fall will be ready to be removed for transplanting in the following spring. After lifting the plants in the fall they can be assorted into grades according to size, making about three classes, and those of each class should be set together for the permanent plantation in order to give the same chance to those of equal vigor.

The ground prepared for the permanent plantation can be marked off in lines four feet apart and the plants set at the intersections with a spade. The soil should be worked with plow and cultivator as often as necessary to prevent the growth of weeds and to keep it mellow. Early in the following spring it will be well to cut down all the trees to the ground level and they will then throw up strong, straight stems and make a rapid growth. Continue the cultivation as long as practicable.

GERANIUMS.

One year since we presented our readers with a colored plate showing several varieties of Geraniums, but so rapid is the improvement of this useful and popular flower that in the autumn we placed another collection in the hands of our artists, and the colored plate in this number is the result. The first two varieties are seedlings grown by us several years since.

No. 1. Golden Queen, a new and pleasing variety, with large trusses of salmon-colored flowers, with a decided orange-yellow hue. It is a strong-grower, of compact habit; a good bedder, loving the sun, and a free bloomer.

No. 2. Blonde Beauty. A new variety, of good color and habit. The center of the flower is deep flesh-color, gradually becoming white toward the edges. The truss is large and compact, a good bedding variety.

No. 3. Dr. Denny. This variety is highly prized for its color, being the nearest approach to blue of any Geranium yet introduced. The truss is not large, but the flowers are beautiful and finely formed.

No. 4. Sylphide. No variety of its color will give better satisfaction for bedding or pot culture. It is of dwarf habit and flowers abundantly.

No. 5. Candidissima plena. We think this variety may be called a pure double white. For two summers past we have tested it by planting with a full exposure to the sun, and the result has been perfectly satisfactory. It is a very free grower, of dwarf habit, and an abundant bloomer.

No. 6. Depute Lafize is one of our finest dark-colored Geraniums. The flowers and truss are large and full.



LILIUM AURATUM.

I have often been asked if I succeed with *Lilium auratum*, and in answer to many I will say yes with three-fifths, no with two-fifths. There is a long chain of circumstances opposed to the successful cultivation of this plant in this country, and the object of my communication is to point out some of the reasons for its failing to grow.

First, it is a native of a climate which is both hotter and wetter than this, and is found in very deep, porous soil, which is largely made up of sand, insuring perfect drainage, a condition seldom attained in this country, and the lack of it is one cause of its failure.

Second, the bulbs grown for market are greatly stimulated with highly concentrated fertilizers, in order to increase their market value, as their value is estimated by their size. This stimulating process is the worst pick-pocket which the amateur has to deal with in the purchase of imported bulbs; but, weakened by the loss of their stimulant and stunned by removal, we plant them in our gardens and supply them with a fertilizer which nine times in ten, instead of meeting their requirements, kills them outright. In planting, it is best to omit the fertilizers until the bulbs are established. The process of stimulating bulbs intended for market ought to be stopped, as by it we are compelled to pay for size at the cost of vitality. Another difficulty is, that when they are dug for market they are handled as carelessly as we handle potatoes, while they should be handled very carefully to avoid bruising. If they are bruised they are sure to become mouldy, and, perhaps, rot while on their journey. It is, of course, necessary to dry them some after they are collected and before they are packed, but this drying process

is immensely overdone. The manner in which the bulbs are handled and packed has much to do with their future welfare in the hands of cultivators. Some are packed in sawdust, some in rotten wood, some in shavings, some in sand, some in fine muck, first a layer of packing, then a layer of bulbs, until the box is full. Some are puddled in clay, and then packed in soil. A few years ago I imported a box of bulbs, and directed that half of them should be wrapped in fine strong paper before they were put in the packing, the other half to be put in without being wrapped. The packing used was fine earth. When they reached me they all appeared to be in fair condition. Those which had been wrapped were clean, with no earth between the scales, while those which were not wrapped were soiled, the particles being stuck into them by mutual pressure. They were all planted the same day in the same bed, and the result was that of those which were wrapped I lost only four per cent., and of the others thirty-one per cent.

I have not been able to account for this difference in any way other than by supposing that the dry earth worked down between the scales while in transit, and, in the jar of travel, ground off the very sensitive membrane with which they are covered, which would, of course, permit a considerable portion of their vitality to escape. There was no perceptible difference in the size and quality of the bulbs, or in the time, place, or manner of planting, so it is evident that in this case the manner of packing controlled the result. After the bulbs have been subjected to the trying ordeals to which I have referred, they pass into the hands of the "bulb merchant" for distribution. He takes the best possible care of them, as he does not wish to sell his customers

anything that is not reliable; but all his care will not bring back lost life. As the bulbs appear to be sound he sends them out, hoping that they will give satisfaction. He does not understand why they should fail to grow, if they are planted promptly and properly. He is not responsible for the injuries they received before they came into his hands, but some one should be, for the planter pays all the bills, suffers all the loss, and is obliged to endure all the disappointment, while the bulb merchant bears all the blame. The planter makes up his mind that somebody is guilty of fraud so he scolds a little and stops buying.

It often happens that the bulbs will flower the first year or season after planting, after which they are never seen again, and amateurs are apt to imagine that they have in some unknown way spoiled their own chances of success, whereas the bulbs were injured before they came into their hands; the cause of which I will try to explain.

When, after flowering, the bulb is taken up for export, it is found that the matter which is to form the flower for the next year is already stored up. If this matter or germ be not too much exhausted by the drying process it will not only send up a stalk and flower, but will recuperate and store up flowering matter for the succeeding year, this course being a law in bulb growth from which there is no appeal. This being the case, a bulb will start into growth if it has life, and will grow as long as its vitality lasts.

A Lily bulb that sends up a stalk but once, has been so injured by the drying process that it exhausts its own vitality in producing one crop of flowers, while for want of that portion of its vitality lost by careless handling and drying, the bulb can neither recuperate nor store up flowering matter for the next year. A Lily bulb may appear to be perfectly sound and be utterly dead, in which case it will rot. If it be half dead it will send up one stalk and then disappear for ever for want of vitality to complete its secondary process in the way of recuperation and establishment. If the bulb be perfectly sound there is no good reason why *Lilium auratum* should not prove successive in its character, if properly planted. This Lily is no more affected by climatic influence than any other—not as much as the Cali-

fornia Lilies—and is, therefore, hardy, but its constitution is too weak to bear the hardships of strong stimulants, careless handling, savage packing and rough traveling. These circumstances, together with the bulbs being kept long out of the soil, combine to destroy the very thing for which we pay—which is life.

So far as the money part is concerned, the prices of the bulbs are fairly reasonable, but, taking the labor, care, and disappointment into account, its culture has thus far proved to be a costly experiment, and we are only cheered by the fact that whoever does get a sound bulb, and gets it fairly established, will have "a thing of beauty and a joy forever."

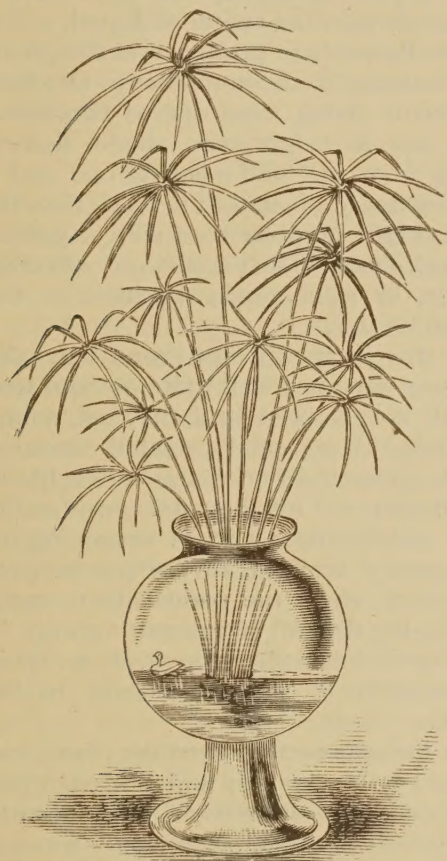
There is no secret about the cultivation of this plant with sound bulbs, for it will grow in any soil but hard clay, as it must have drainage. As the stem rises it should be tied to a stake, that it may not be broken by the wind. It is absolutely necessary to restore the balance between the top and the root of a newly planted bulb, and this is best done by picking out the flower buds as soon as they appear. This course will very much lessen the tax on the bulb, and enable it the sooner to become established. The second year the buds may all be allowed to flower, though it would be much better if half of them were taken out, as the remainder of them would produce much larger flowers. Success can never be attained until we know why we fail; the principal reasons for which I have given.—E. HUFTLEN, *Le Roy, N. Y.*

A HAPPY WATER PLANT.

MR. VICK:—Do your readers puzzle their heads much over the "survival of the fittest," "natural selections," and such things? Whether they do or not they may be interested in the circumstances that produced the pretty plant shown in the engraving. Just a year ago a few sticklebacks fighting in a tin pail drove me to the purchase of one of your large aquarium globes and two quarts of white sand. Wishing some plants to "balance" the animal life in the coming aquarium, I visited a neighboring greenhouse and was there shown a *Cyperus alternifolius*, which I was told would grow well in water. After washing all the earth from its roots I buried them beneath the sand

(also well washed) in the bottom of the globe. The plant had then but three or four culms, and these spread their leafy tops only just above the mouth of the globe.

A few quarts of clear water completed the home of the little pugilists, and for several days the aquarium seemed to prosper well. What evil genius inspired me at this stage of the proceedings to introduce into that water a tablespoonful of algæ from the nearest watering-place I know not. Neither does it concern the subject of this sketch to tell how soon



CYPERUS ALTERNIFOLIUS.

thereafter the fishes all "turned their white sides to heaven, or how the water became green with Protococci, in the midst of which swarmed myriads of Paramecia, Vorticella, Flosculariæ, Amœbæ, etc., etc. The main point is that above them all, serene and flowering, flourished the Cyperus, undisturbed by their puny perturbations, unmindful of the succession of species in the liquid element about its base.

From that time to this the plant has received no other care than an occasional gallon of water to replace that lost by

evaporation. It has never been moved from the south window in which it was first placed. It has blossomed nearly all the time. There are now thirty culms in various stages of growth. The longest measures thirty-one inches in height. Several old ones have been removed, as new ones are growing continually.

I have never seen another plant so regardless of its surroundings. During the summer, when blinds were closed and shades lowered to exclude the sunlight, it kept just as cheerfully about its work as when the sun was smiling its sweetest upon it, and the lesson it seemed anxious to teach I fancied was this:

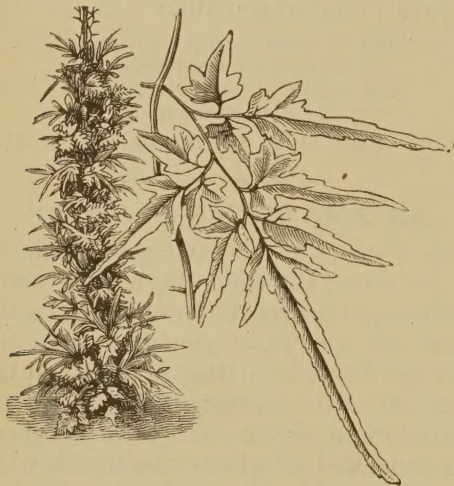
"Not enjoyment and not sorrow,
Is our destined end or way;
But to act that each to-morrow
Find us farther than to-day.

—MRS. M. E. S., *Rochester, N. Y.*

AN AMATEUR'S PLANTS.

MR. VICK:—I procured two plants of the Japanese Climbing Fern, *Lygodium scandens*, at nearly the same time, in the fall of 1880, one from your place and one from San Francisco; they were about the same size and evidently thrifty plants. I planted them in three-inch pots, and there they remained all winter; the fronds were about four inches high and seemed determined to never be any nigher; all through the long winter neither of them grew even the sixteenth part of an inch. Early in the spring I put both, first cutting them close to the ground, into six-inch pots and placed them on the top shelf of the east window of the conservatory. This window is shaded by a porch and only now and then a stray sunbeam reaches the plants on it. The plant I got from you commenced to grow immediately and threw up four fronds, which are now five feet long, besides several smaller ones. It is now resting preparatory to its summer's work. The other one continued to stand still, and persisted in this conduct until a few days ago. About a week since I put it into a tin can, and it has already shown a tiny dot of green, so I know it still lives. I kept my conservatory very hot and moist during the summer, and this, I think, was the reason one of my Ferns did so well. Why the other one failed, planted, as it was, in the same soil, placed in the same position and subject to the same treatment as the

first one, can be accounted for by me only by supposing that it has been subjected to some wrong treatment not long before I received it. On the same shady shelf with my ferns stood my Begonias; and how they thrived! Two were Rex—the others flowering and tuberous. It is wonderful the improved appearance a Begonia will present in a week or two after it is moved from a comparatively sunny shelf to a very shady one. I prefer the sheeny, satiny leaves to the flowers. I have a Begonia of dwarf habit, with leaves and stems thickly covered with a grayish white fuzz; this fuzz can be easily



LYGODIUM SCANDENS.

removed and the leaf is then of a bright glossy green. It has never bloomed, but does not lose its leaves in the winter as my others do. I call it Dusty Miller for want of a better name. I have a White Perfection carnation before me now, with two great creamy-hearted, fragrant blossoms nodding at me. It has several healthy buds on it and, although it is in an old oyster can, there are very few of my plants in pots for which I would exchange it. It will give more satisfaction as a winter plant, all things considered, than any other I know of, not even excepting the Primrose.—E. C. B., *Tacoma, Wash. T.*

WINTER PANSIES.—STANLEY MARTIN, of Olean, N. Y., wrote us December 27th: "I take the liberty to send you by mail a few Pansies from our garden grown from seeds you sent us. During the summer and autumn they were the finest I ever saw anywhere. I have picked them all through the month of December, sometimes with the snow two inches deep."

THE RED JAPAN ANEMONE.

The red Japan Anemone, *Anemone Japonica rubra*, is a half hardy herbaceous perennial plant belonging to the natural order Ranunculaceæ. It was introduced by Robert Fortune in 1844. It is said to be one of the favorite plants of the Chinese and Japanese, by whom it is much cultured for its beautiful flowers, and Mr. Fortune first saw it growing in a garden in Shanghai, China. But Dr. Seibold says that it inhabits damp wood on the edges of rivulets on a mountain near the city of Miako, Japan, and also on the mountain near the center of Japan.

The flowers are produced in the greatest profusion, from September to October, on stems rising from one to two and a half feet in height, the single flowers being from one and a half to two and a half inches in diameter; in color they are of a bright purplish rose with a golden yellow center. The plant is very effective in pot, or as a single specimen in the mixed border.

As this pretty species grows naturally in damp situations it is quite obvious that it will not succeed in a dry, hot, sunny situation. If a partially shaded situation can be given it, so much the better, but in a rich deep soil it will stand considerable heat and drought without sustaining injury, so that I think it advisable to prepare the place where the plants are to stand by digging the soil and manuring well; in the event of drought a thorough watering occasionally is of great benefit to the plants.

On the approach of frost the plants can be taken up carefully and potted, when they will prove attractive for the decoration of the greenhouse and window garden. In most cases, however, the plants have quite exhausted themselves by the profusion of flowers which they have produced, and, consequently, they are of no value for inside decoration, but as they are not hardy they must be taken up before cold weather sets in and placed in pots or boxes and wintered in a cool cellar or under the stage of the greenhouse, care being taken to prevent them from becoming too wet, for if they become too wet they will rot. Propagation is effected by dividing the plants. This operation is best performed in the spring just before growth commences. In dividing the plant it will be observed that

it will separate into many pieces and that each piece of root has several eyes more or less prominent at its upper extremity; each of these pieces will form a fine flowering plant at the end of the season if well taken care of. The pieces can be potted into three-inch pots and placed in a hot-bed or in a warm, light, sunny situation and, as soon as they have grown sufficiently, removed to or plunged, in a cold frame, gradually hardened off and planted out when all danger of frost is over.

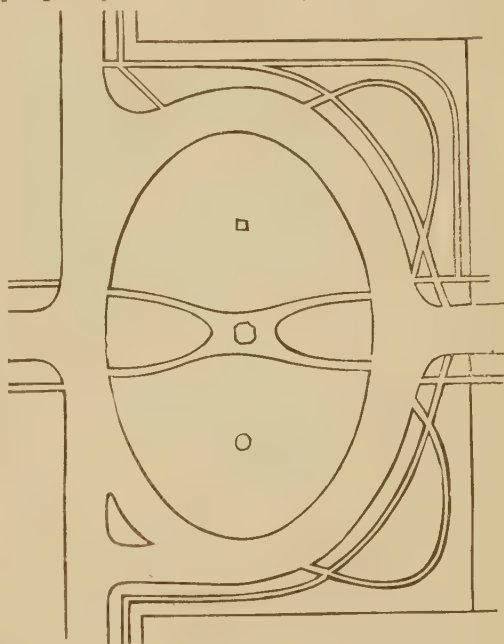
When large masses are desired, do not divide the plant, but start it into growth about the first of April and treat as advised for young plants.—CHARLES E. PARNELL, *Queens, L. I.*

SMALL PARKS.

MR. EDITOR:—Thanks for your article on Parks in last number of MAGAZINE. Allow me to add a few further suggestions. In the pleasant village of Avon, in this State, on high table land, is a little park well-conceived in form for its surroundings and in position where it overlooks for a great distance the Valley of the Genesee, which there is exceedingly picturesque and beautiful. The arrangement of the ground is worthy of notice, although that of the narrow walks at the sides, as may be observed, is somewhat finical. Main street, represented at the left in the illustration, starting in the valley, runs directly up the side of the hill until it reaches the level at the summit, and there meets another running north and south; here is situated the park, the principal plat of which is an oval in form. Around this oval drive-ways lead to the continuation of Main street beyond. Standing on the park and looking through the street down the hill the view extends out over the river and valley for miles, presenting a scene of quiet grandeur and beauty. The opportunity in this case for making an attractive place has been perceived, but in executing the details the failure is signal.

A handsome granite monument, of which the citizens may be justly proud, occupies the center of the ground; it is enclosed with iron railings and the grass kept neat inside. Walks that traverse the oval plat unite at the central enclosure and surround it, as shown in the diagram. The position of this piece of

ground is so rarely exceptional and fine that with almost any treatment it would be attractive. It is to be hoped that with altered management it may yet, in time, show some artistic work worthy of its natural surroundings. Without entering more into detail in regard to this place, it may be said that it has been introduced to the notice of the reader merely to show that with great natural advantages and with evident desire on the part of the community to improve and beautify it the result may be anything but satisfactory. We cannot here pretend to say precisely or in detail what treatment this place should have received, but there is one idea connected with it that cannot with propriety be overlooked, and which is, in



fact, central and controlling, and to which all special features must be correlated. It is that from as many points as possible these views into the valley in the distance should be free and uninterrupted. The trees on the park are not yet large, but even now, if one would look upon the valley, he must stand outside the grounds. It is plain in this case there was a lack of skill in designing it, as is generally the case. There is sufficient professional skill in this country that may be employed at no extravagant cost to devise improvements for the public grounds of our cities and villages that, executed at a moderate expense, would transform the desolate places to scenes of beauty and make them sources of constant enjoyment and

laudable pride. Our horticulturists have for years been gathering treasures of trees and shrubs and flowering plants; all parts of this country and Europe and China and Japan and the most remote regions have poured in their contributions. These have been carefully tested by summer's heat and winter's cold, until now we have a multitude of the most diverse forms and characteristics of trees and shrubby plants.

On the public grounds these peculiar and beautiful forms of vegetation may be exhibited in sufficient variety to interest anew the dullest and the least appreciative of nature's cunning. It is time that in almost every community this subject should receive attention, and that those most interested, or at least those who most clearly perceive the defects that have been mentioned, should endeavor to arouse a popular desire for improvement that shall demand the necessary action on the part of authorities. The improvements contemplated do not demand the entire destruction of the trees already grown. Some may remain; some, necessarily, would be removed. Even the removal, however, need not be made entirely in one or even two seasons. With a well-arranged design the transformation may be gradual, if preferred, occupying a number of years.

To be more specific in regard to this subject, or even to state principles for the arrangement of such grounds, or much more, to give the names and define all the habits and characteristics of the most appropriate plants for them, would transcend the purpose of this article.—S.

SUCSESSES AND FAILURES.

MR. VICK:—I have been wishing to write to you about some of my successes and failures, but have been neglecting it, to my own loss, for I should have liked a little advice before choosing my seeds. And as we are apt to think first of our failures, I will say that I was much disappointed at not getting any plants of *Delphinium formosum* last year. I have almost a passion for blue flowers, and hardly was willing to wait until the second year, but I did not get even one plant. My garden is sheltered from wind, warm and rather shady. Sweet William, planted at the same time, close by, came

up well. *Celastrus scandens* also disappointed me, as not one plant came up. I planted some early, in the house and at different times in the garden. I have a great deal of space for climbers and want a number of hardy ones. But when I read in one of your publications that *Maurandya* grows four or six feet, I feel like exulting over one I had last summer. I kept it in the house all winter (a self-sown seedling last fall) and set it in the garden early in June. It was then a very thrifty plant. On the 25th of September it had run on strings to the top of a building twenty feet in height, and would no doubt have gone higher if there had been anything to cling to. It was not a spindling growth either. It was three feet across in the main part, a solid mass of living green without an unhealthy looking leaf, and with branches extending laterally on each side for several feet. It grew and bloomed until late in November. If any one had a better plant of violet *Maurandya* than that I should like to hear about it. You say *Tropæolum Lobbianum* does not do well out doors, but might it not succeed where *Maurandya* does so well? I should like to try.

What is *Anchusa Capensis*, which I have seen described as a blue flower in some catalogues, but have not seen mentioned in yours? I am curious about blue flowers. *Browallia* deserves all you have ever said of it, and one thing I think you have not said, that it sows itself freely in the garden. But I wish you would do a little more justice to *Phacelia congesta*. It is a great favorite of mine, and I am sure any one who likes delicate flowers would be pleased with it; its foliage is so pretty, too.

Will Dwarf *Nasturtium* do well in partial shade? The trouble with my garden is that it has not quite enough sun. It is shut in on three sides, but the south side is open.—S., *Newport, R. I.*

In a sheltered garden, such as described above, *Tropæolum Lobbianum* might succeed if good, vigorous plants, are set the latter part of spring or in early summer. *Anchusa Capensis* is a hardy herbaceous perennial, with large smooth foliage and producing fine blue flowers with a white center.

The dwarf *Nasturtium* would very probably succeed in your garden.

COMMON NAMES.—A native orchid of Mexico, *Cattleya citrina*, has, for its common name, *Cozticoatzontecoxochitl*.

RAISING CELERY.

Few persons in this part of the country know how to cultivate Celery, and the tedious and complicated directions for its culture have been repeated so often that many persons think Celery is a luxury to be used by the rich only. This is a mistake.

While crisp, nutty-flavored Celery may, to a certain extent, be considered a luxury, and one worthy of an epicure, it is also a useful, healthy vegetable, which may be grown in almost every garden with not much more trouble than other vegetables. Instead of planting the seed in hot-beds and transplanting to trenches, I would say plant in the open ground as soon as the soil will work well; be careful to have the ground in fine condition, and cover the seed lightly.

Celery seeds germinate slowly, and I find it a good plan to stir the soil once or twice with a steel rake before the plants make their appearance. Sow in drills about fifteen inches apart, and as the plants advance in growth shear the tops off to induce a stocky growth.

The time for the final transplanting in this latitude (central Indiana) is from the middle of June to the middle of July, but I find that one or two previous transplantings improve the plants by inducing a strong growth of roots. Set the plants in rows three and a half or four feet apart, and the plants six or eight inches apart in the rows.

Celery requires a great deal of moisture, and if the soil is not naturally moist it may be necessary to furnish some water.

After transplanting, cultivate often enough to keep the ground loose and free from weeds. About the middle of August the process of "earthing up" should begin, when the soil should be drawn up to the plants enough to keep the leaves upright, and when cool weather comes the blanching may be finished by taking soil from the space between rows and banking up to the tops of the plants on each side of the row. The "earthing up" should be done when the plants are dry.

Be careful to get your seed from reliable sources, as old seed or that grown from inferior stock will be sure to disappoint you. I prefer the dwarf or half-dwarf varieties.

Will not others who have had experience give their methods of raising this crop! I would especially like a description of the best ways of keeping Celery during winter.—F. W., *Zionsville, Ind.*

JEALOUSY OF BIRDS.

A correspondent of the *Germantown Telegraph*—H. O. MILTON, M. D., of Tennessee—thus speaks of his pet pigeon: "A male pigeon, the only one on the place, was a great pet and everything was done to make him comfortable. We were not surprised, however, when one day our pet was missing. We supposed he had deserted us for friends of his own species. We were correct in our surmises, for after over a week's absence he returned with a strange pair, with whom he seemed happy and friendly. They went to work conjointly to build a nest, seemingly a partnership affair, but one morning the male stranger was missing and our pet had possession of both wife and nest. We found the poor thing lying dead near by, with a gash in his head, the work of his treacherous friend, who, enticing him to his cosy home, murdered him and took his widowed wife. Does not this teach that treachery is not alone a trait of human nature?"

My home being among evergreens, we were swarmed with black-birds in breeding season, and it is common to find two males attending one female in the building of a nest, all being in apparent harmony, but only one of the males can mate with the female under pain of death—not "treachery," but the self-importance and the jealousy of love.

I once witnessed a case of the most savage murder of the rival male. It took place in a pouring rain and ended in the tall, wet grass, both birds being saturated with water, and when I went to the rescue of the defeated, after he had given up the contest and cried for mercy, I found all the scalp off him, both eyes out, and he was in the last agonies of death; and the victor only had one eye to see him with, yet he aimed his blows with savage certainty. I gathered them both up, wiped and dried them, while the victor dealt his blows at my hand. In about two hours the conquered died, and the conqueror, after a few trials, fled to the nest some hundred yards away. I have also witnessed some hard fights between

rival male robins, though they do not entertain a supernumerary male bird about the same nest.—S. F. L., *Chelsea, Pa.*

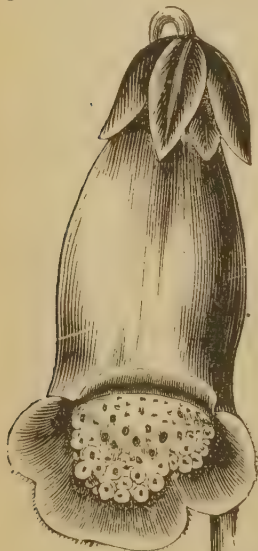
A FEW FAVORITES.

It is well that we do not all think alike, that our tastes differ, or all would have the same flowers, and there would be a sameness in our gardens, and even in our house-plants, far from pleasant. The flowers that are gathered in the fields or that grew in the gardens when we were children, are always loved. The little wild Daisy that adorned the meadows of



CALENDULA OFFICINALIS.

my childhood's home far beyond the seas are sweeter to me than the finest Roses or Camellias that ever bloomed. The Digitalis, or Foxglove, which was commonly known in the olden time as Thimble Flower, that grows so abundantly on the sides of the shaded English country lanes, may not be very handsome, and yet I would not like to lose it from my garden, and even now I unthinkingly place the blossoms upon my fingers as was my wont two score years ago. It is a stately flow-



FOXGLOVE.



er and merits a good place in my border of perennial plants. The Cowslips and

Primrose, how sweet their memory! The old Corn Bottle that grows in the wheat fields of Europe, much to the annoyance of the farmer, is really a pretty blue flower, and I am glad to see it advertised



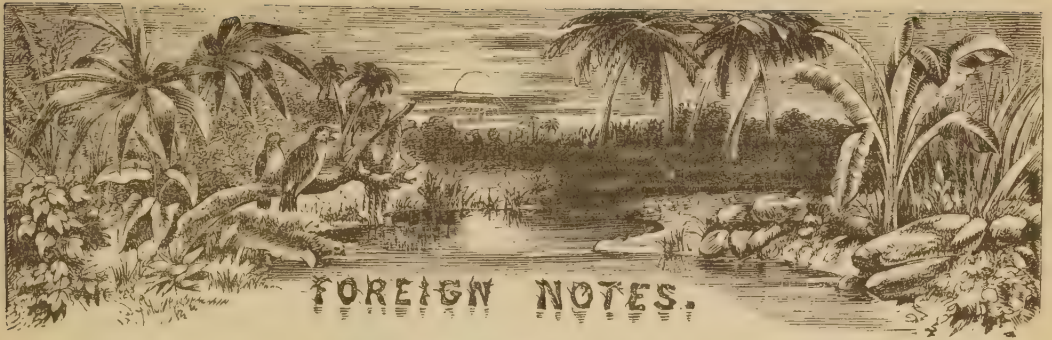
CALENDULA OFFICINALIS.

in seedsmen's catalogues, as *Centaurea Cyanus*. If it is not the old wild flower it is very nearly the same, and I sow a little pack every year. The scarlet single Poppy that also beautifies the wheat fields of the old land is a brilliant flower, and



CENTAUREA CYANUS.

this, like many other old and good flowers, is attracting attention, and for a year or two I have seen it in the catalogues of leading seedsmen. Few flowers will give a more brilliant scarlet bed. I must speak of one more old flower, the Pot Marigold, *Calendula officinalis*. There are few better yellow flowers for the garden, at least this is the opinion of one whom some of your readers may consider A FOGY.



TUBEROUS BEGONIAS.

Tuberous Begonias have not yet become plentiful enough in this country to be much employed as bedding plants. But the trials that have been made with them indicate that they will in time serve well for this purpose. A writer in *The Garden*, who has had considerable experience with them, says: "There are two distinct types even in the best strains. The tall varieties, which produce the largest flowers, are not suitable for bedding, which requires plants of short, sturdy growth, more branching and compact." This writer thinks "there is probably a long future before this plant as a bedder, because, like potatoes, the bulbs can be stored away in any place where they are safe from frost, and by means of the shelter of a few cold frames and a little careful management any number of plants can be raised and planted out every year. In winter they want no fire heat, no light, and no water." He raises his plants from seed sown soon after they are ripe. The young plants "are allowed to remain in a warm temperature until December, when they go to rest of their own accord, and the pans are set on the floor of a cool greenhouse, where they remain until April. They are then lifted on to the stage, and if the seeds have come up well the pan will be stocked with bulbs—some the size of large peas, others smaller. In June, when there are generally some vacant frames, three or four lights are prepared, and the young plants are put out in a bed of soil six inches apart each way." Here they are carried through the summer, removing the sash when no longer necessary. "When the growth dies down in the autumn, bulbs from one inch to two inches in diameter will be found."

"The winter storage is a simple matter ;

when the bulbs are lifted from the soil we lay them on the floor of a cool house, where fire heat is only used to keep out frost. They will bear a moderate amount of drought or moisture when resting, but extremes in either case are fatal to sound keeping."

In April, before bedding out, the young bulbs are planted about six inches apart in cold frames, where attention is given to airing and watering, and as the season advances the plants are hardened off preparatory to planting, which is done as soon as danger of frost is past. The writer says he has "been fairly successful with plants raised from seed and planted out the first season for flowering in beds, but such plants bear no comparison to those that have had one season's growth in frames. After the bulbs have done duty two seasons in the flower garden they are thrown away, as bulbs more than three years old invariably start weakly, and many not at all." If the seed is not sown as soon as ripe it may be in February, "but this will necessitate the seedlings being sown in a warm temperature for four or five months, and then they ought not to be used for bedding the same season, but should be planted out in a frame to complete their growth for the year, and stored in the winter."

"Those who have not the convenience of a house may, I believe, do fairly well with a frame. In this case the seed should not be sown until the beginning of May, and most likely a little more care and patience in watering will be required, but as the temperature increases the young plants will grow fast, and by the end of July they will be large enough to prick off into a bed of soil in the frame, where, if they are carefully attended to all the summer, and have the shelter of the lights both night and day, with a moderate

amount of air during the day time and shut up at nights, they will grow vigorously until the end of October, and produce some good bulbs for the next season, but, of course, they must not be expected to be so large as those raised from seed six months earlier. Those who wish to succeed with Begonias as bedding plants must keep a stock of young bulbs on hand to replace those worn out."

NOTES FROM AUSTRALIA.

DEAR MR. VICK:—One of the lately-to-hand MAGAZINES makes us acquainted facially with one whose name has been for some time "familiar in our ears as household words." 'Tis a good head, I take the liberty of saying, with something in it, and I believe that I should like the original, and that he would improve on acquaintance. Literally, the MAGAZINE grows apace, blooms perennially, and is a true evergreen, and I am sure must be doing good service in awakening and maintaining an admiration and a love for the beautiful, the most beautiful of all the great Creator's provisions for our gratification, to say nothing of its happy mingling of the *utile* with the *dulce* in valuable information and advice about those horticultural comforts without which man would be but a carnivorous animal indeed.

We are just commencing our summer here, and the gardens are bursting into bloom. The Roses this year are more especially fine (a large vase full of about a dozen varieties gratifies my olfactories as I write), and generally there seems less blight than there is sometimes. I have before said that, as a people, we Australians are fond of flowers—good ones—and I have lately seen a further instance of appreciation of floral decoration. For some time past conductors of vehicles who took pride in the appearance of their turnouts have stuck a large flower on the head-stalls of the horses, and now I observe that the milk-boys running the milk carts, who are generally dashing and "spiff" in their personal get-up and equipage, have taken to decorating their hats with the most splendid flowers, Roses or Camellias, they can get hold of by cap-tion or purchase, and the effect of the floral addition is really picturesque and effective. In the Cape Colony the young "swells" are wont to twine an Ostrich

feather round the hat by way of a pug-garee, but a pretty floral wreath will, I take it, be still more pleasant to the eye, and, as we never do things by halves, it won't surprise me to soon see these lacteal purveyors each a regular Jack-in-the-green. The butcher lads, or, as they are termed, "the clerks from the mutton-chop office," also begin to imitate the milk-boys, and, as they all drive good "spanky" cattle and well-appointed carts, with the addition of a few flowers they look undeniably well. I find even the love of something green and growing, something to tend, care for, and watch, extends even to those that go down into the sea in ships, and, going aboard some of the large vessels in port, I found flowers and shrubs (in pots, of course,) in various positions; on one vessel the captain had caused an Ivy to grow around the skylight over the cabin, producing a most refreshing effect.

We have just now a grand Flower Show at the Town Hall, a very "swell" affair, and, it being the Saturnalia of our Cup Racing, there is "every one" there and most of their wives and daughters; the principal feature of the show is a grand collection of Azaleas, forming a glowing mass of fresh color; there are also very fine Pelargoniums and Calceolarias and Roses. Of the Azaleas the most notable were the Queen of Beauties, Reine des Roses and The Grand Duchess de Bade. In the churches we have our flower sermons, and a flower mission obtains amongst the ladies of Sunday-schools, to take their children—each with a pretty bouquet in hand—to the hospitals and and benevolent asylums and leave, with pleasant looks and words, their floral offerings with those distressed in mind, body or estate, thus doing a kindly action and inculcating a love of the beautiful and sympathy with sickness, sorrow, and old age at the same time.—S. W. V., Melbourne, Vic.

FLOWER SHOWS IN ENGLAND.—"Flower Shows," says the *Gardeners' Chronicle*, "have become everywhere local institutions; they teach and they expand ideas; they promote that contact amongst horticulturists of all sections that was previously wanting, and have and are doing a power of good." The love for flowers is now universal.

FLOWERS IN EUROPE.

MR. VICK:—In my last I spoke of some flowers that seem to do much better in some parts of Europe than in America, and, strange to say, many of them are American flowers. This was particularly the case with natives of California. I never before saw such a display as is made by the little *Nemophila*, particularly in the seed gardens in the neighborhood

enjoy fogs and drizzles. Indeed, sometimes I seem to overdo the matter, for on meeting an English acquaintance one damp morning I said, "Fine day, sir." The only reply was, "Beastly, beastly weather." To grumble at the weather, I found was a privilege people on this side of the world enjoy.

The display made by the *Godetias* and *Clarkias* were to me a sunshine. I certainly saw *Godetias* as large as single *Hollyhocks*, almost, I concluded to qualify the statement, you see, and *Clarkias* as large as *Petunias*. For fear you might doubt my veracity I send you the exact size of flowers I gathered.

In Holland I saw *Calochortus* and other California bulbs doing much better than in any other part of the world out of the valleys and canyons on the Pacific coast. One florist in Leiden seemed to devote his entire attention and grounds to scarce and difficult things that are seldom seen in perfection, and an hour in his grounds was to me a treat indeed. The treacherous California lilies that don't seem to know how to behave



CLARKIA INTEGRIPETALA.

of St. Osyth, in the County of Essex, England. It forms a perfect mossy green carpet, enlivened by abundance of its pretty little flowers. I trust the engraving in your last GUIDE must be taken from a plant grown in England, for I never saw any so fine in America. I mean to try them in a cool shady corner in my garden.

How luxuriantly the Pansies and Daisies grow and how much they enjoy the cool showers that make me shiver and long for a parlor stove; but I am getting acclimated, and learning to pretend to

in civilized countries, were doing nicely. What a wonder of beauty is the double *Ranunculus* as grown in Holland. A gentleman allowed me to pick a large bouquet, containing fifty flowers, and not two alike. I would have given its weight in gold if I could have sent it safely to friends at home.—TRAVELER.

Our correspondent sent us a copy of the *London News*, from which we printed an article on the inconveniences of English railroad travel, and to which the editor makes a lengthy and funny reply. We may give the spice of this in our next. We succeeded in enjoying English railroad traveling.

EARLY BLOOMING CALLAS.

A writer in the *Gardeners' Chronicle*, in reference to flowering *Richardias* at Christmas, says: "Most gardeners practice the planting-out system, which for early forcing is a mistake. The plants make a quantity of roots, and consequently many leaves; but when placed in a forcing house, how few get them to flower with the certainty required by those who grow them to pay!" These remarks are probably quite appropriate, relating, as they do, entirely to early forcing; for ordinary culture, however, when time is not so much a consideration, if any, as convenience in caring for the plants and the certainty of their bloom eventually, there is no better method than planting them out in the garden during summer.

The plan given by the writer above quoted is undoubtedly a good one for early blooming plants and is as follows: "In the spring, after the plants are done flowering, gradually dry them off enough to allow the old foliage to be easily torn from the crowns; shake away all soil, cut up the old crowns, and pot singly, the largest in thirty-two, the others in forty-eight sized pots. Use good stiff loam with some coarse sand or road grit added; plunge them out-of-doors and keep them always well supplied with water; root restriction will cause the growth to become short and firm, and when placed into heat one may hope to get from twelve plants a dozen flowers."

RICINUS A FLY DESTROYER.—A writer in a French journal states that the Castor-oil Plant in a room will rid it of flies. The insects alighting on the leaves and sucking the juice of the plant fall dead, and their bodies change to white. Those of our readers who are curious enough, can undertake to verify, if possible, the statement by raising plants of the *Ricinus* in pots for this purpose.

A MILD WINTER IN ENGLAND.—The present seems to be an unusually mild winter all over the world. An English correspondent, at Derby, writes us, the 12th of December, "I have plenty of Sun-flowers in bloom in the garden, and Primroses. Some of my Daisies are in bud. The season is a remarkably open one."

DEATH OF DR. DENNY.

The English journals some weeks since announced the death of Dr. DENNY, "whose name," says the *Journal of Horticulture*, "has been a household word in the horticultural world for some years past."

"It was chiefly as a horticulturist that Dr. DENNY made his mark." "The specialty he took up was the race of Zonal Pelargoniums, which he set himself to improve and which he did improve with marked success. The mantle of DONALD BEATON appeared to have fallen upon him, for he carried out the cross-breeding principle of that remarkable man with great success, and thereby gave to the world some of the finest forms of the Zonal Pelargonium that have ever been produced."

LIFTING OVERTHROWN TREES.

Gales of wind that were described as hurricanes visited Great Britain last October and did much destruction among trees and buildings. Thousands and thousands of trees were blown over and uprooted, destroying many of the finest specimens in the country.

In some places they are setting up these trees and covering the roots again with soil with the hope of continuing their existence. Before lifting them they shorten all the branches. At Dunse Castle, where there was great destruction, they are raising trees which, the *Gardeners' Chronicle* is informed, "are about sixty feet high, in their cut-in state, as raised, their full height having been 90 feet. The largest will girth about ten feet at five feet from the ground, the weight of the tree being about four tons, and the ball of roots and earth about sixteen tons, or twenty tons in all."

STEPHANOTIS.—The *Gardeners' Chronicle* describes a plant of *Stephanotis* covering the roof inside of a hot-house. "The house is fifty feet long by fifteen wide, and the roof is fully furnished with the plant, which is remarkably strong and vigorous, blooming every year for a long time, yielding quantities of flowers, yet the pot it grows in is only eighteen and one-half inches in diameter, and the roots are not in position to receive nutriment beyond what they get within the pot."



EXPERIENCE AND QUESTIONS.

MR. VICK:—Your MAGAZINE has been my inspiration and guide in all matters of floriculture since it made its first appearance. Before I began reading its instructive and entertaining pages I had decided that my home must forever lack the beauty imparted by window-gardening, because I had no "knack" in the cultivation of house-plants. Gradually, however, after reading of the success of one and another of your correspondents, and seeing from your directions and cautions to try many of my own mistakes, I found courage to try yet again, and lo, success attended my more intelligent efforts, and, thanks to VICK'S MAGAZINE, my windows now are draped with vines and filled with plants. I am convinced that intelligence is the grand requisite to success in this as in all other pursuits, and that knowledge is not usually intuitive, but must needs be gained, by the constant reading of a practical journal, such as is your MAGAZINE. I write now to ask many questions, which I hope will be of enough general interest to warrant answer through your columns.

1. I was troubled, last year, by a small, black fly, which I imagined was in some way connected with the worms which I found in some of my pots of Fuchsias and Geraniums. I tried watering with a solution of carbolic acid, soot-water, etc.; also kept a constant evaporation of water in the room in which they were kept, and gave them as complete change of air, by ventilation, as I could secure. Nevertheless, the flies and the worms flourished far better than the plants that they attacked, and even killed some of my favorites for me. The indications are that similar trouble is brewing this year. What can I do? I will try lime-water first.

2. I have an Amaryllis, but of what variety I cannot tell. It was given to me, and I have kept it now eighteen months. It has thrown off six or eight bulbs, which I removed, but it shows no sign of blossoming, and, as I do not know what variety it is, I cannot tell when it ought to grow, when rest, or what to do. Can you advise me as to this?

3. Is there a plant resembling the variegated-leaved Abutilon, but which does not stand without support? I purchased a small plant, said to be an Abutilon, the leaf of which I enclose, which has grown nicely, but never blossomed, and which has shown a strong disposition towards a trailing habit. Could you tell me what it is, and whether it is worth cultivating?

4. Would you be so kind as to give a list of Grapes that you would advise a person living in central Michigan to plant, on a new place, with clayey soil, where strong winds must be expected? We want to have some six or eight varieties, of different colors, to use both for table and to preserve.

5. Could you give a list of seeds that, sown in the

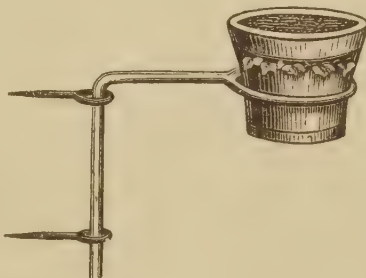
house in February and March, would be reasonably certain to produce plants sufficient to make a foliage bed?

6. Would you name a few ornamental shrubs suitable to plant on a village lawn? We have a place eight rods in width by sixteen in depth, on which will be built two houses, each covering a space of about thirty-five feet in width by fifty feet in depth, placed so to leave nearly all the unoccupied width of lots between the two houses, with about twenty feet between the fence in front and the houses. The space back of the houses will be devoted to fruit trees, and small-fruit principally, and it is desired to have a few pretty groups of shrubbery, besides two or three small beds of flowers in the unoccupied space around and between and in front of the houses. Please name shrubs adapted to being planted together with such description of their appearance as will give us some idea of the effect.

7. Would you advise a long grape-arbor running east and west between the two houses, with Grape-vines on the southern side, and Clematis and Virginia Creeper on the northern side, fronting the street? Such an arrangement would give the Grape-vines plenty of sun, but also expose them to very high winds from the southwest.

Before closing this already too long communication, I want to say for the benefit of those who, like myself, are beginners in the art of floriculture, that there is nothing so decorative and easily managed as vines twined about plant windows. German Ivy, English Ivy, Madeira Vine, Maurandya, etc., will wreath and drape windows, and even if some plants do disappoint, the general result will be beautiful, and will encourage to perseverance in the undertaking till success shall be uniform and satisfactory.

I am using a very simple pot-bracket, which I like



so much that I would like to extend the knowledge of it. It consists of a piece of common quarter-inch rod, such as is sold at all hardware stores, bent by the blacksmith, as shown in the engraving. The perpendicular arm is four inches long, the horizontal arm about three inches, and the circumference ac-

cordova to the size of the pot to be held. Screw-eyes are fastened into the window-casing, three inches apart, and the perpendicular arm dropped through the eyes. The pot is then dropped into the ring, and can be turned at any desired angle. With vines wreathing the window-casing and pots held by means of these inexpensive, simple, little brackets, peeping out, one above another, holding either flowering plants or drooping vines, a shelf below with larger plants, a hanging-basket in the center with a mat of drooping foliage and *Maurandya* climbing up its strings, a very pretty window is attainable, even if part of the pots may be old tin cans painted, the hanging-basket an old wash-dish, also painted, and the shelf a rough affair, covered with inexpensive marble-cloth pinked at the edge.

Let those who can laugh at these economies, but those of us who have to make mother wit serve instead of silver and gold, learn to rejoice in our ability to make beauty around us out of the most unpromising material.

Sometime, if you want to have any more talk on the subject of window-gardens, I will describe a very satisfactory one that I had made to order this year, unlike any that I have ever seen, in some respects. I would be very glad to hear from some one about summer window gardens—those that are fastened outside of windows. What they are planted with, what exposures are best, how deep the boxes should be made, etc.—MICHIGAN.

1. In reply to the inquiry about the little black flies and the white worms, it may be said that this subject was somewhat discussed in our last volume, and by reference to pages 45 and 122 the remedies there mentioned may be learned; one of these was to take two parts of soot and one part of wood-ashes and mix them together, and, having stirred the soil, sprinkle the mixture thinly over it. Another is to stick three or four common matches down into the soil and one or two up into the drain-opening. The phosphorus on the matches is said to cause the death of the worms.

2. Let the *Amaryllis* bulb go rather dry until latter part of February, or later, then, as we begin to get milder weather, and a warm temperature may be more easily maintained, place it close to the light and give more water; after it has completed its new growth and possibly has bloomed, allow the plant again to rest a couple of months, by withholding water and keeping it in a rather cool place. After that, again start it into growth; thus continue it with alternate seasons of repose and activity.

3. The plant enquired about is unquestionably *Abutilon Mesopotamicum variegatum*, a dwarfish plant of drooping habit.

4. The following named varieties of native Grapes will be found hardy and reliable in central Michigan: Moore's Early,

Brighton, Concord, Delaware, Pocklington, and Salem.

5. From seed sown in the house in February and March plants may be raised of *Canna*, *Euphorbia marginata*, *Perilla Nankinensis*, *Centaurea gymnocarpa*, *C. candidissima*, *Glaucium corniculatum*, and *Cineraria hybrida*. Whether these plants will be large enough in the spring to be suitable to bed out will depend on the skill of the cultivator.

6. To comply with the request contained in the sixth inquiry would more nearly require a volume than the few lines of space that this reply must necessarily be confined to. Without attempting any descriptions, the following kinds of shrubs may be named as appropriate to set in groups on a small lawn in Michigan: *Deutzias*, *Spiræas*, *Syringas* (*Philadelphus*), *Lilacs*, *Weigelas*, *Hydrangea paniculata grandiflora*, *Cydonia* (Japan Quince), *Forsythias*, *Berberis*, *Cornus*, *Calycanthus*, Purple Fringe Tree (*Rhus cotinus*), Snowballs (both *Guelder Rose* and *Viburnum plicatum*), *Mahonia* if sufficiently hardy, low-growing *Junipers* and *Arbor vitæ*, and Hybrid Perpetual Roses.

7. We do not advise the long arbor—it is not desirable as a garden ornament, and it is a poor arrangement for raising fruit. The Grapes will do far better on trellises specially adapted to them.

CHARMING WRITERS.

MR. VICK:—I should like to ask two questions.

1. Why are the people who write about flowers such charming writers, as a rule?

2. How shall a *Lycopodium* be treated in winter?—MRS. D. S., *Kirksville, Ill.*

Flowers are charming subjects, and only charming people are interested enough in them to write and read about them.

Lycopodiums should be kept moderately warm and moist, otherwise no special care is needed.

ITALIAN ONIONS.

MR. VICK:—Please state, in your next MAGAZINE, if I can expect any success with Italian Onions in this latitude without the hot-bed treatment.—G. D. S. *Berkshire, Tioga Co., N. Y.*

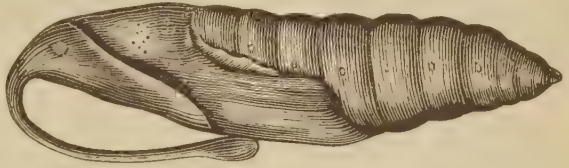
The Italian Onions cannot be depended upon in this part of the country for good crops unless the seed is started in hot-beds and the young plants transplanted. Our season is not long enough for them to make their growth and ripen.

THE FIVE-SPOTTED SPHINX.

Please give some instruction on the destruction of the horned Tomato-worm. It did much damage to the crop.—B. B. C., *South Sutton, N. H.*

The caterpillar or worm here enquired about is the larva of the Five-spotted Sphinx, *Sphinx quinquemaculatus*, a large moth that is pretty well known by sight, and those not knowing it by name may recognize it by the annexed en-

rounded with black. From this feature it bears its name. Dr. HARRIS, from whose *Insects Injurious to Vegetation* our illustrations were taken, says: "This insect,



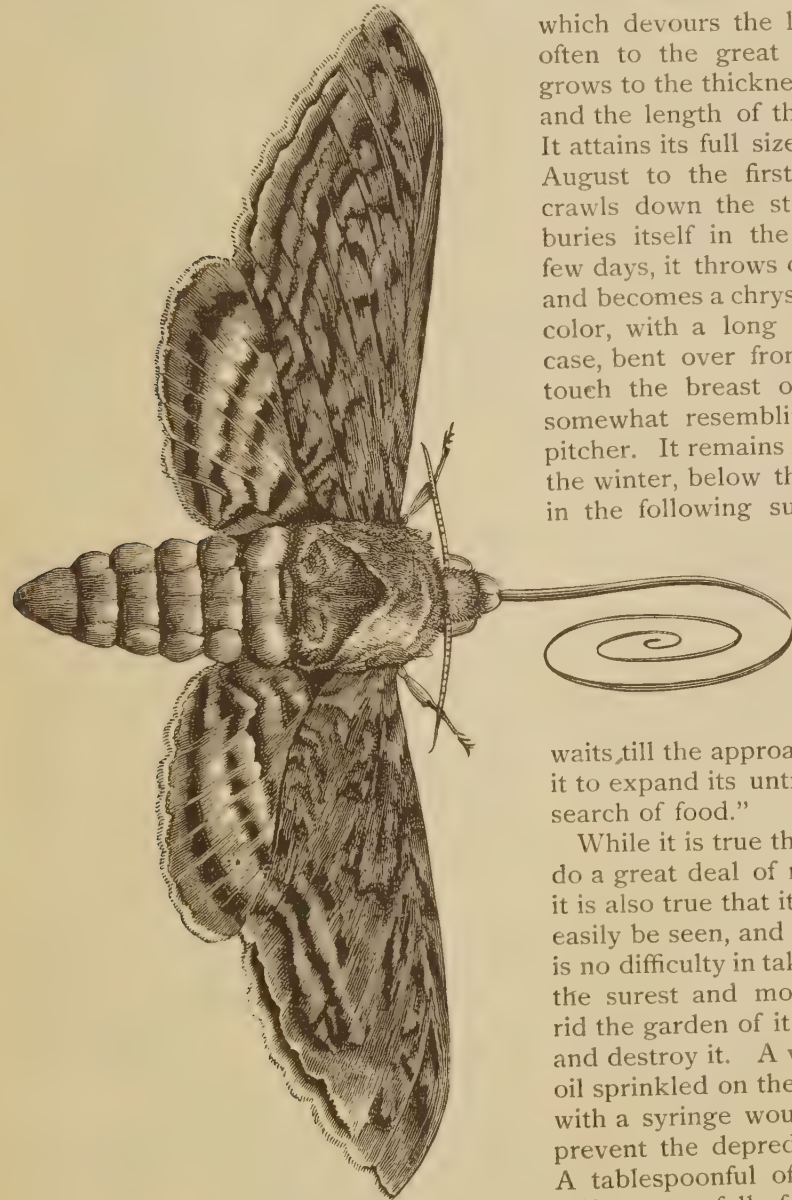
CHRYSALIS OF FIVE-SPOTTED SPHINX.

which devours the leaves of the Potato, often to the great injury of the plant, grows to the thickness of the fore-finger, and the length of three inches or more. It attains its full size from the middle of August to the first of September, then crawls down the stem of the plant and buries itself in the ground. Here, in a few days, it throws off its caterpillar-skin and becomes a chrysalis of a bright brown color, with a long and slender tongue-case, bent over from the head so as to touch the breast only at the end, and somewhat resembling the handle of a pitcher. It remains in the ground through the winter, below the reach of frost, and in the following summer the chrysalis-

skin bursts open, a large moth crawls out of it, comes to the surface of the ground, mounting upon some neighboring plant, and

waits till the approach of evening invites it to expand its untried wings and fly in search of food."

While it is true that this caterpillar can do a great deal of mischief and damage, it is also true that it is so large that it can easily be seen, and so sluggish that there is no difficulty in taking it; and ordinarily the surest and most economical way to rid the garden of it is to take it by hand and destroy it. A weak solution of coal-oil sprinkled on the plants or thrown on with a syringe would have the effect to prevent the depredation of the creature. A tablespoonful of coal-oil mixed with half a teacupfull of milk and the mixture stirred into eight quarts of water makes



gravings. It is described as measuring about five inches across the wings; the general color is gray, and this is marked and clouded by blackish lines and bands; on each side of its body there are five spots of orange color, and each sur-



CATERPILLAR OF FIVE-SPOTTED SPHINX.

a compound that may be used on plants without injury. If any of our readers have witnessed much destruction of vegetation by this caterpillar, and have successfully checked or prevented it, their experience in relation to it would be welcomed.

HYACINTHS IN WATER.

MR. VICK:—As you kindly answer all questions through your MAGAZINE, and thus benefit all your subscribers at the same time, I would like to ask you a question about Hyacinths, hoping you will answer at your leisure. Upon an examination, this morning, of my bulbs which are growing in water, I find several of the finest named, Grand Vainqueur, Vanderhoof, King of the Blues, and such, with the roots entirely decayed, while the water is almost in a state of fermentation. The other portion of the bulb appears to be sound, the leaf and flower-bud being apparently in a healthy condition. I have been growing Hyacinths in glasses for over forty years and I have never had this disease among them until in the last five years. Last year out of fifty I had hardly a good flower, though I treated them as in former years, when I was very successful. Now, I wish to know whether it is in the bulb, the water, or whether there is something wrong in the treatment. I do not allow a heat over 55° or 60°, and I give them plenty of light, and change the water once a week, or oftener if required. Any information you can give me which will prevent me giving up a winter flower-pleasure, will be thankfully received by me, as it will by others of your subscribers who may be placed in the same situation.—E. E. H., *Philadelphia, Pa.*

The state of the water in the Hyacinth glasses here described is an unusual one, as most of those know who have bloomed Hyacinths in water. It is not strange that the water is "almost in a state of fermentation" when the roots of the bulbs have "entirely decayed;" here are just the conditions for fermentation—decayed vegetable matter mixed with water. We cannot bring the different facts in regard to the treatment of these plants in review, one by one, and point out that here was a mistake or there a mistake, for these facts are unknown, except as to the statements of our correspondent, which are too general to base a diagnosis upon. All that we can say that may be of benefit, is to clearly show the proper treatment for flowering these bulbs in water.

Hyacinth bulbs that are to be placed in water should be sound; but this is not always possible to determine. The best precaution one can take is to procure them from reliable dealers, and even then he may have some imperfect ones. Before putting the bulbs in place they should be carefully looked over, and if any unsoundness is discovered remove the in-

jured scales. It is well, also, to examine the bulbs after they have been in water about a week, and it will then be found that the fleshy matter just at the base has softened and may easily be removed by scraping with the thumb-nail; this will be before the roots have pushed, and if this soft matter is then removed the water will be less likely to become impure.

The base of the bulb should just touch the water, but after the water has evaporated a little it will stand below the bulb, and should so be kept, the roots extending into it, but not the bulb itself.

As soon as the bulbs have been placed in water they should be removed to a dark place, where they will make roots before the light excites the movement of the foliage. In a month, or about that time, when the roots are four or five inches long, the plants should be brought to the light, and then they will quickly push their leaves and throw up flower-stems. If kept in a light place from the commencement, the bulbs will make leaves and scarcely any roots, while the flower-stem will hardly escape from the bulb.

The water should be changed in the glasses often enough to keep it pure—twice a week if necessary, but usually once a week is sufficient. The fresh water that is given should be allowed to stand in the room with the plants until it has acquired the temperature of the room before pouring it into the glasses. A few pieces of charcoal in the glasses tend very much to keep the water pure, and we should prefer always to use it. Rain water is preferable to hard well water, and it is better still if it is filtered.

Presumably in the case here enquired about the bulbs were sound and made healthy roots, after which they decayed. The conditions that favor the development of healthy roots would not cause their decay. What the changed conditions are we cannot determine.

CHICAGO MARKET POTATO.—"I purchased last spring one pound of the Chicago Market Potato, and cut sets to single eyes and planted one in a place. The plants were well tended and, when ripe, the whole crop of tubers was found to weigh ninety-five pounds good weight. One quite large potato weighed one pound and fourteen ounces."—W. R., *Platteville, Wis.*

SENTIMENT SILENCED.

Loitering the other day at Kew,
 Admiring flowers of varied hue
 And various climes, I reached a spot
 Where waved some blue Forget-me-not.
 Ah, me! the sight brought back the day
 When in a valley far away
 A maid and I drew near a brook
 From which some living flowers she took.
 Though many a year has fled since she
 Offered the gathered flowers to me,
 Her smile I have not yet forgot,
 Nor musical "Forget-me-not."
 Then was it strange that there, at Kew,
 The brook that saw our last adieu,
 And all the scene, should come to me
 In sweet but mournful reverie?
 "Now tell me child, what people call
 These pretty flowers, so blue and small."
 Roused by these words, I turned, and there
 A sturdy boy, with curly hair
 Stood, with his nursemaid, near the spot
 Where waved the blue Forget-me-not.
 "Don't know," young Master Blunt replied;
 "Don't know!" said Jane, dissatisfied;
 "Come, try to recollect the name
 They give this charming flower—the same
 I lifted to my lips one day,
 And then its name you heard me say."
 Teased by her question, teased and vexed,
 The boy seemed thoroughly perplexed;
 But conned her hint with all his power,
 And gruffly muttered "Cauliflower!"

J. V. J., in *Gardeners' Chronicle*.

ABYSSINIAN BANANA—PÆONIES.

MR. VICK:—Is the *Musa Ensete*, or Abyssinian Banana, a fruit-bearing plant, and if so, at what age does it fruit?

Does the Tree Pæony bloom better in the south than the common herbaceous kind? I have had a pink one of the old kind six years, and have never had a flower, though I have tried my best to make it bloom. Will you please answer the above queries in your valuable MAGAZINE, which I read with great interest, and I owe to it my success in growing many plants. There is an increasing interest in flower-culture in this far-off, much praised and much abused land of Texas.—MRS. W. L. W., *Dallas, Texas*.

The Abyssinian Banana is considerably cultivated in large establishments in this country and Europe as an ornamental plant. Our illustration shows that it attains a noble size. A full-grown specimen will measure nearly forty feet from the ground to the extremities of the leaves; some of the leaves will measure seventeen or eighteen feet in length. At the center of the crown of leaves is borne a spadix about four feet in length, containing numerous large, oval spathes of a greenish-brown. The fruits succeeding these flowers are from two and a half to four inches in length, and each contains from one to four black, glossy seeds, about the size of a hazel nut. The fruit is not eaten, but another part of the plant

is much used by the Abyssinians as food; this is the pith, or inner part of the stem, which is a pure white, and tender, and when cooked is said to be delicious. Unlike the Banana cultivated in Florida, this plant produces no off-shoots, or suckers, and is always raised from the seed.

How well the Tree Pæony blooms in Texas and the other more southern parts of the country we are not informed. Herbaceous Pæonies in those sections suffer from the heat, and the best treat-



MUSA ENSETE.

ment is to mulch them well with some light and loose litter that will allow the rains to pass through and reach the soil, and not turn them off. Besides this, it is best to water the plants freely two or three times a week until the blooming season is passed.

HERMOSA ROSE.

I find the MAGAZINE a great help in the care of house-plants, and think the colored plates are beautiful. Will you tell me what to do for my Hermosa Rose? It is now a year old, grows very thriftily, but does not bloom. It is in a large pot, in a southeast window, and the soil is quite rich with well-decayed barn-manure mixed with leaf-mold, charcoal, sand, and garden soil.—MRS. J. S., *Clinton, Iowa*.

Since the plant is thrifty, we should continue treatment as heretofore; give it the full benefit of the light. It will bloom in time.

GRAPEVINES AND BULBS.

MR. JAMES VICK:—Will you do a subscriber the favor to answer the following questions?

1. Is the fall of the year the best time to remove Grapevines?
2. Is it safe to remove a large vine?
3. What sort of locality is best for a vine?
4. What is the best way to keep the Spotted Caladium? We have tried taking up the bulb and drying it, but it rotted.
5. Will Tuberoses do better to take them out of the pot and dry them, or will they do better to leave them in the pot all winter?
6. As we have a small pit to keep flowers in, will you mention some flowers that may be safely kept through winter in a cellar?—Mrs. J. P. R., *Tilton, Kentucky.*

1. Vines may be moved in fall or spring, or any time in winter when the ground is in proper condition to work. Fall or winter transplanting, if properly performed, is preferable to spring work.

2. Large Grapevines can be moved, but there is no advantage in doing so, as a one or two-year-old vine can be sooner brought into proper bearing shape and size.

3. The vine requires a warm, dry soil, and by preference should have an exposure to the south or the east.

4. Caladium bulbs can best be kept over winter in powdered charcoal, in a place where no frost can reach them.

5. Tuberoses should be removed from the soil and kept in a warm, dry place, such, for instance, as a living room.

6. Plants with woody stems, like Abutilon, and Achania, and Fuchsia, can be allowed to dry off and be kept in a cellar until wanted. It will be best to turn them out of pots and cover their roots with moist sand.

DAPHNE INDICA.

MR. VICK:—I wish you would tell me how to treat the Daphne. I have had several, and some have grown to be of large size and then died. In one night they will wither and droop their leaves, looking just as though they had been scalded. I can't imagine what makes them do so. I have one now just in that way. All summer it was beautiful, and put up several branches of flower blooms, but in one night it withered, drooped its leaves, and the buds looked shriveled. It was in the pit, and undergoing the same treatment that it had been for a long time. Do the plants require much water, or not, and do they need much sunshine? Please tell me what to do with them. They are favorite plants of mine, and I hate to lose them in this way.—Mrs. A. C. H., *Accomac Co., Va.*

From the nature of the inquiry we suppose that it relates to Daphne Indica. The principal points in relation to the culture of this plant were mentioned on page

318 of the last volume. Failure is most apt to occur with it from two causes, of which overpotting, or potting in too large a pot, is one, and the other is an excess of water, and this is the practical result of overpotting. A little more heat than it would get in a pit in the winter season in Virginia is desirable, though a temperature from 45° to 60° is all that it needs. It is better that it should have a suffused light than to be exposed to the direct sun-rays. The extremes to be avoided are a dry atmosphere with high temperature, and a low temperature in connection with a wet soil.

PEA PROTECTORS.

A late number of the *Journal of Horticulture* gives an account with illustrations of Adnitt's Pea Protectors, and as the information may prove serviceable to many in various parts of this country we present it to our readers. The inventor of them says: "I make them of three-quarter-inch boards four inches wide and six feet long; make the groove, A A for the glass to slide in, chamfer the top edges of the boards, and nail pieces of sheet iron on the ends, cut the exact width of the frame, with two nails on each side. I nail a piece of wood one inch by two across the middle of the inside where the dotted lines are. This is feather-edged at the bottom, and prevents the sides from warping. The top of this cross stay is made flush with the underneath side of the glass. A hoop-iron handle three-



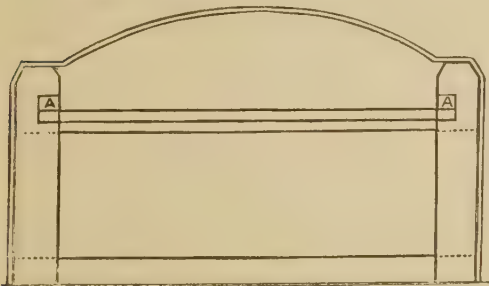
PEA PROTECTOR.

quarters of an inch wide is secured with half-inch flat-headed nails. One nail an inch long is driven through the top, where it is bent over the wood. I paint the wood with anti-corrosive white paint and black the handles. These protectors have been in use all the year round for four years, and appear as if they will last four more without painting. I nail a piece of zinc across the ends of some of them to prevent mice from getting in. The glass is cut so as to work freely in the groove, the two end pieces to fit tightly.

"I have found them of the greatest use in protecting and forwarding early Peas. For the last twenty-five years I have tried

raising early Peas out of doors, but as yet I have found no plan approaching this. The protectors are very easily moved from one place to another. A man can carry two in each hand (a length of twenty-four feet). They are easily stowed away if not in use, which is very seldom, and they are very cheaply made.

"The plan I adopt with these protectors is this: I prepare the ground as is usual for peas; draw straight drills, sprinkle a little fresh lime and soot in them to destroy any slugs that may be there; sow the Peas so that they shall be all inside the protector, then cover them with soil, and give a good sprinkling of lime and soot on the top. I then place on the protectors, having one at each end that has a stop to prevent mice and birds from entering. No further attention is needed until the Peas reach the glass, with the exception of an occasional search for slugs. But the protector should be firmly pressed into the ground an inch or so to keep out mice and slugs. When the Peas reach the glass the protectors can be easily raised a few inches by placing them on earth drawn to the rows; this can be done from time to time until the cold cutting winds of spring are past. When the



TRANSVERSE SECTION OF PEA PROTECTOR.

protectors are removed the rows are all that could be desired, and the Peas make rapid growth. Those who sow Peas in November will find these the best of protectors, for when sharp weather comes litter, leaves, etc., may be laid over them, and as easily removed without damage to the plants beneath. I find the best size for Peas is eight inches wide and four inches deep. I make them from six to fourteen inches wide; these larger are used for forwarding such crops as Radishes, small salads, Lettuces, and Horn Carrots, which never come too early."

There is no question but that protectors like this can be employed to advantage.

PERSIMMONS.

MR. VICK.—In the current issue your correspondent, Miss E. E. B., New Orleans, La., notices some remarks of mine on Persimmons. In this latitude the fruit never fully matures, but hangs on the tree until it withers and dries up; and in the spring the new bloom appears with the remnants of the last year's fruitage still on the tree. This condition is often observed in half-ripe apples, which hold with great tenacity to the parent tree, while those fully matured fall at the appointed season. In this region, frost is thought to be necessary to modify the astringency of the fruit, but as the cold weather always comes with the fruit still hanging, and unfit for use, perhaps a longer continuance of warm weather would serve the purpose as well or better. Genial sunshine might convert the acrid into luscious juice without the aid of freezing.—Miss A. B., *Canandaigua, N. Y.*

INSECTS IN ORCHARDS.

It has been proposed to destroy insects in the orchards, and among them the Codlin Moth, by the following practice: First, whitewashing the bodies and limbs of the trees as high as practicable, and, second, the latter part of spring and before insects become very active, plow furrows each way between the rows of trees, so as to leave a square piece of smooth ground under each tree; then scatter some straw lightly under the trees, keeping it away three or four feet from the stems, and many insects will harbor in it. After ten or twelve days that the straw has been thus spread under the trees, some evening, taking one tree at a time, set fire to the straw, burning straw and insects together. Follow up the practice for two or three years and few insects will remain.

SOFTENING OLD PUTTY.—The following, which is said to be a German method of softening putty, may be useful to those having hardened putty to remove from sashes: Take soda or potash—the latter being preferable—and dissolve it in water and mix the solution with fresh-burnt, fresh-slaked lime. After the mixture has stood for a time, pour off the clear fluid and bottle for use. Putty moistened with this fluid quickly softens, and is easily removed.

PANSIES AND VERBENAS.

It is a good time this month to start Pansies and Verbenas from seed. Pansies can be brought along so as to bloom this spring, and Verbenas may be made fine, strong plants for planting out when the frosts are over.

Sow the seeds in boxes or pots of light, fine soil, and cover very lightly. Water



PANSY PLANT.

gently, and it will then be best to cover the surface of the soil with a piece of coarse-textured paper, such as brown wrapping paper. The water can be given on the paper, and will then slowly filter through without disturbing the surface of the soil; besides, the paper will check evaporations and hold the soil in a moderately moist condition. As soon as the plants appear, the paper can be removed. When the young plants are well up, and



VERBENA PLANT.

have made two or three leaves they can be pricked out into fresh soil and be given room enough to continue their growth until another shift may be necessary, or they are planted out. Give the plants plenty of light when they begin to grow, and air occasionally, so that they may be stout and stocky and not weak and spindling, as they would be with a lack of light or air.

HYDRANGEA.

Please inform us in your MAGAZINE if *Hydrangea paniculata grandiflora* is perfectly hardy, and will stand our winters without protection.—U.

The shrub named is quite hardy, and we have never heard of its receiving any serious injury from frost anywhere in this country.

THE GOLD-BANDED LILY.

Our correspondent, E. HUFTELEN, gives in this number his experience, information and opinions in regard to the frequent failure of the Gold-Banded Lily. His experience is similar, doubtless, to that of many others, and while the narration of it may be useful in directing attention to certain causes of failure, some of the statements in his article may be particularly noticed.

The remark about drainage is quite appropriate, and the necessity of a light, porous, and well-drained soil, cannot be overlooked, in the successful cultivation of this plant. The information we have in regard to the bulbs imported into this country is that they are dug from the uncultivated grounds where they grow in a wild state, and we have no doubt this is true of the trade up to a very recent period, and even now to some portion, at least, of the stock. If the plants are now cultivated largely by the Japanese, it is because the supply of wild bulbs is failing, or that bulbs can be produced cheaper in the gardens than they can be collected in their native localities. Allowing the statement that the bulbs are cultivated for market, and that highly concentrated manures are used for the purpose of increasing their size, it cannot be admitted that the use of the manures is in any way injurious to the bulbs. The stimulation of plants by any kind of fertilizer in the sense that the word *stimulate* is employed, when applied to animals, in describing the effect produced upon the nervous system by certain substances contained in food or drink, is an impossibility. Plants having no nervous nor muscular system, stimulation, or any effect at all like it, cannot be rationally conceived in relation to them. The peculiar feature of the so-called sensitive plants do not affect this statement. The only effect of manure upon plants employed in connection with the proper conditions of cultivation is to increase both their size and their vigor; and accumulated experience has shown that such plants are better able to endure hardships and untoward conditions than those more feeble. As a matter of fact the soil where Lily bulbs are planted should be enriched during previous cultivation and not at the time of planting. When, however, bulbs have become established they will receive

liquid manure gratefully. On the whole, we think the greatest difficulty with this Lily, as with the California Lilies, is this heat of the summer sun. The remark made by our correspondent, that the plant "is a native of a climate both hotter and wetter than this," does not conflict with the opinion, even if it be true, and although we may have occasion to doubt the statement, at least, in regard to a part of our summer, since it was originally made by an English traveler and writer in comparing Japan with England, and not with this country, yet we do not care to examine it here, since the same writer referred to shows very explicitly that the plant in question occupies situations in its native home where it avoids both the heat and the excessive moisture. For, to make the quotation at more length from E. H. W., in the English journal (*The Garden*, vol. 14, p. 560): "This Lily, then, grows on hill-sides, where there is perfect drainage, in a soil free from lime, in a climate that is both hotter and wetter than our own in summer, and is in winter dry and bright, with occasional sharp frosts of a few days' duration."

"Another point to be noticed is that the Lily abounds at the edges of woods, where the dwarf Bamboo, that in Japan takes the place of grass, effectually shields the stem and roots from the sun's rays, while the upper part of the stem with the broadest leaves rejoices in the sunshine."

As a summary it may be said that the conditions to be observed in cultivating *Lilium auratum* are as follows:

First—Good drainage.

Second—A light, porous, and fertile soil.

Third—Deep planting, or from eight to twelve inches.

Fourth—A mulching of light litter, in order to maintain an even, cool temperature in the soil.

HONEYSUCKLE-VERBENA.

MR. VICK:—I wish to obtain some information as to the blooming of the Halleanna Honeysuckle. I purchased one about four years ago, and it grows beautifully, as far as vine and leaves are concerned, but never has had a bud upon it for flowering. It stands east and west, what I call a beautiful situation. Will any one who may have had experience say if I can do anything to cause it to

produce blossoms; it is described as blooming from June to November. I read the letter from your correspondent, E. A. M., Allegheny county, Pa., wishing for hardy scarlet Verbena—the writer calls it Montana Verbena, and I have no doubt the one I obtained in Salt Lake City, under the name of Rocky Mountain Verbena, will suit exactly, as it is of the desired scarlet variety and severest winters fail to have any effect in injuring it. If E. A. M. will send me postoffice address I will forward a plant with pleasure. I like to obtain the good will of everybody, and as the writer's is offered for this plant I think I can secure it.—MRS. L. J. HOLLEY., *Springville, Utah.*

The address of E. A. M. is Miss E. A. Mattiers, Green Tree, Allegheny county, Pa.

EXPERIENCE WITH THE CALLA.

My experience with the Calla is that it does well if kept growing in summer, out of doors, in the ground. There was a flower-bud on one thus treated when I took it up this fall; I put a false bottom in a gallon crock by whittling a pine shingle so that it would support the plant and leave a space at the bottom to hold hot water. A piece of bark cut off a small limb of Hickory, curled together by exposure to the sun and forming a tube, I set on the inside of the crock, reaching to the bottom of it and passing below the false bottom through an opening cut on one side of it; this serves as a spout through which I pour off, every morning, whatever there is in the crock, and then pour a half tinfal of boiling hot water into the crock through the spout. With this treatment the bud is now (December 20th) opening out and is quite large. The plant has four large leaves on it.—MRS. M. H. W., *Barnard's, Pa.*

LONDON MARKET.—In the flower market, Camellias were selling for twelve cents each; Carnations, four cents; Chrysanthemums, eight cents; Lily of the Valley, eight cents; Roses, eight cents; Tuberoses, twelve cents; large sprays of Roman Hyacinths, twenty-five cents; Tomatoes, twenty cents; Pine Apples, sixty cents per pound; new Potatoes, twelve cents per pound. The *London Gardeners' Chronicle* reminded its readers that these prices could not be relied upon for Christmas week.

BORDER FLOWERS.

MR. VICK:—Though I like a lawn ornamented with a few nicely kept beds of ornamental-leaved plants, Geraniums, Lobelias, Begonias, or some of our brilliant long-blooming Annuals, I must say that I derive a great deal of pleasure from the border, where I have something in flower nearly all the time, and something new about every week. The Aquilegias, or Columbines, are my particular favorites, and, indeed, I might say this of the Larkspurs and the Canterbury Bells, and a good many others. The Hollyhock, too, is a stately plant, a prince among flowers. A good old flower is the Lychnis, not refined enough for the parlor, perhaps, or the most æsthetic taste that we hear so much about, but a real good, honest, hardy garden flower, that no one need be ashamed of. When in perfection, a bed of the scarlet variety is brilliant indeed.

Of all the border flowers, I think Perennial Phlox is one of the best. I have had trusses of these noble flowers eight or ten inches across—a perfect mass of bloom, the blooms crowded together and overlapping each other. For the information of those not acquainted with the fact, please allow me to say that mildew, which sometimes attacks old plants, is prevented by frequent renewals, that is by dividing the roots and transplanting every other year. This I do early in the autumn. There is a great advantage, also, in frequently dividing the roots of Hollyhocks, as it keeps the plants young and vigorous. I

do not allow more than half the flower-stems that start to grow, taking them out when young. As the flower-stalks of Hollyhocks are hollow when old, they furnish a pipe that conveys the water to the roots, and causes rotting, especially when the plants are old and do not possess much vitality. It is a good thing to bend the flower-stem over instead of cutting it off, or in some other way prevent the water getting at the roots.

What a dear old plant the Perennial



LYCHNIS CHALCEDONICA.

Pea is. I have a little corner, and it is really a wild corner, if not a wild garden, for for some reason it became neglected. Half a dozen Perennial Peas were growing there, and now they have taken entire possession, and the matted carpet of grass does not seem to interfere with their growth in the least.

The Primulas and Auriculas I would like to grow, but have not always been

successful. A cool border a little shaded with shrubbery seems to be the best location for them in this country. Our summer weather is not favorable.

The Oriental Poppy, bright scarlet, with flowers three inches across, and as hardy

for the seed-bed. They come slow and sure. In sowing seed of my own growing I put them into the ground as soon as ripe, just in the natural way, as they would drop from the plants.—ELLA.

EUTOCA.

Blue flowers are my special friends, and they are none too abundant. We have plenty of reds of every tint, but no blue among Roses or Pæonies, or Gladiolia, or Phlox, or Verbenas, or Balsams. I know that in some of these the colors are called blue, but there is no true blue in either.

The *Eutoca viscida* is one of the best of blue annuals, I think, and it is intensely blue. I saw it first growing wild in California, and on getting home was delighted by looking over the seeds-

men's catalogues that I could obtain the seed. Since that time I have grown it nearly every summer. The plants are rather coarse, especially if

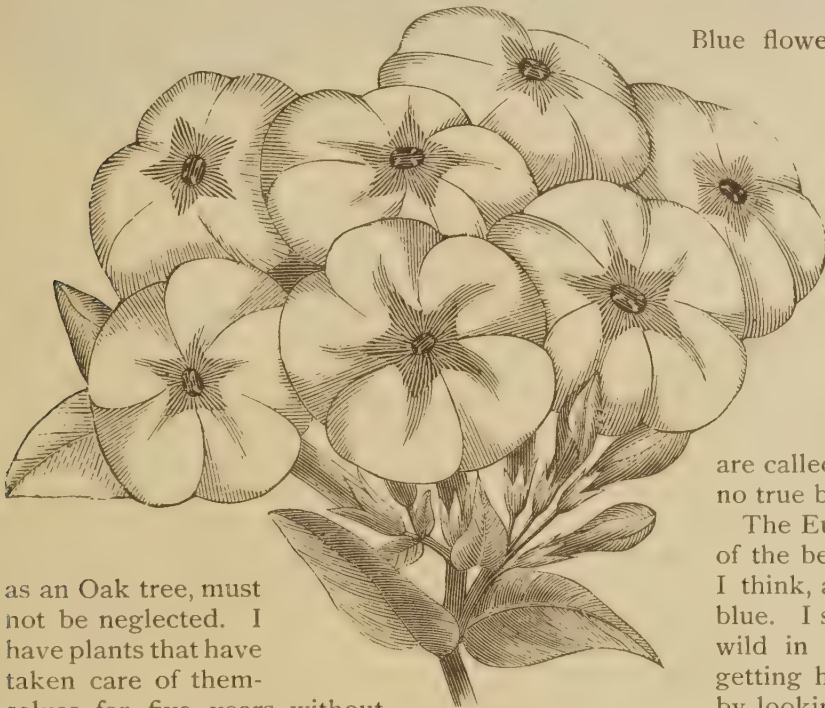
as an Oak tree, must not be neglected. I have plants that have taken care of themselves for five years without the least attention. This is not much to my credit, but it is to the credit of the flowers.

The Perennial Flax, with its delicate stems and leaves, and pretty blue flowers, that seem to be floating in the air, is one of my particular favorites. There is a white variety that I have never had in my garden, but hope to secure it next season.

Some of the Pentstemons, with their long spikes of tubular flowers, most varieties being pink or scarlet, make a grand show in the garden.

The good old Sweet William I shall never discard, and hope to renew my stock of plants, for the truth is, the herbaceous border is apt to be neglected, because the plants do so well with little care that they seldom get that little.

Once I had a good deal of trouble and disappointment in growing perennial plants from seed, as it would sometimes fail to germinate, or be so slow as to tire my patience. Now I succeed better. I sow the seed early in spring, in a cool place that will not be hot and dry when the sun becomes hot, and when I think it is becoming too warm, I make an awning



PERENNIAL PHLOX.



grown in a rich soil, so I give them a poor place and they keep in better shape and give more flowers. The flower-stems, if cut as soon as open, will keep in water a week.—B.



THE NEW NEIGHBORS.

Charlie Foster and his sister May were holding a grave consultation early one morning. They were standing by a front window, glancing dubiously from time to time to a house across the street, where lived a family who had come as strangers during the past summer. Two members of the family were a boy and girl—apparently of their own ages—who had seemed very fond of a large dog that belonged to them—a dog which, within a week of their arrival, had so outraged the feelings and rights of Charlie and May that they had vowed they would never have anything to do with the family. And this was how it happened.

An aunt of May's had presented her with a thrifty English Ivy, promising, if she would give it such regular attention as should secure its healthy condition and continuous growth, that she would take her to a great floral exhibition that was to come off the first week in September, at the State capital, a hundred miles away.

This aunt had various reasons for such a proposition. One was, that her neice was careless about attending to little duties; and another, that she was indulging too much a morbid desire for fictitious reading, which certainly was growing with what it fed upon, to the exclusion of other and better things. May was a name-sake of hers, and she had always watched her with much interest. When she herself was a young girl her father had promised her a five-dollar gold piece for the first neatly-made shirt, done entirely with her own hands. But times have changed since then. May was delighted with the prospect of a trip to the great city. She knew it meant more than just to attend the floral exhibition; for both aunt and uncle were liberal people,

and were sure to make the trip a delightful one in many ways.

So May was for once thoroughly interested in plant life, and wished to give her vine every advantage of care and position. After consulting her mother, it was carried to the broad portico and placed in a deep niche at one base of the horse-shoe-shaped window of colored glass that framed in the doorway. In the other niche Mrs. Foster had a 'Passion-vine'—the only plant she ever cultivated in pots; thus proving that when one makes a specialty of any one plant it may be brought to perfection.

The Ivy's longest branch of three feet was then carefully trained against the glass, and May stepped inside the hall to note the effect. She declared it beautiful, and then inquired:

"Now, how long, mother, will it take this vine to climb up over the top of the door where it can play at 'bo-peep' with your Passion vine?"

"That will depend on how you manage it. Mine will probably reach there first, because it is naturally of more rapid growth."

"Tell me, please, what you mean by 'manage.'"

"Each one of those short branches near the base is forming new leaves, and a proportionate amount of stem to support them. In other words, each one is developing a separate growth of its own—not dependent on the others, but all dependent on the one root for support, which has but a certain amount of vitality to be distributed among any number of branches that may happen to cumber it. Of course, their separate growths must be in proportion to the amount of strength they absorb from the root."

"Oh, now I see—and this explanation

makes it really interesting. I had no idea that"—and away she ran, soon bringing a pair of scissors, saying—"I'll show you how well I understand what you mean,"—and was about to sever a short branch of splendid leaves from the main stalk, when her mother exclaimed:

"Stop, stop! my dear! Let's first select the finest branch and tie it to the main stem. You may be glad to hide its nakedness by and by, by twining this around it."

"I thought its leaves were perennial."

"So they are, when the vine is perfectly healthy—but when it is not, they are apt to fall; and the oldest growth suffers first. But if by proper attention the vine again becomes vigorous it will usually throw out new leaves to replace the missing ones. Now that you have secured the best one of the short branches let's see if we cannot check the growth of the others by pinching off their growing tips, and thus save the beautiful foliage—now that we have it—as a decoration to partly screen the soil and pot."

"But will they not grow again?"

"Of course, they will make an effort; but you can keep pinching them back. Mother Nature does not allow her offspring to be snubbed in that way without helping them to reassert themselves. Embodied in the life of a plant there seems to be a tenacity of purpose for fulfilling the entire design of its existence under the most adverse conditions."

"I do not believe I quite understand you."

"Well, for instance, I once noticed a Morning Glory plant in the gravel beside a walk. Weeks passed, and though it did not die it still had only the first two leaves. From the unfertile gravel it could not gather strength enough to reach out in graceful coils, or—with proper support—to have climbed up toward the sun and the blue sky; but when it was old enough to have been in bloom,—and other vines were full of blossoms,—it expended its little all of strength in forming one perfect flower—which sat as grandly upon its two green leaves as a queen upon an emerald throne, and far lovelier. The seeds, which would naturally have followed as the crowning fulfillment of its mission in the world, I had resolved to preserve as trophies of its persistent effort to be, and to do, what

nature had designed it should. I had a dim notion that from them I might propagate a kind of dwarf Morning Glory—but alas! the plant had expended its entire vitality on the one blossom, and had none left for the maturing of seeds, which must hold in their germs the strength for future plants; and so, after it had asserted its little victory over adverse conditions by unfolding its royal purple to the light of one brief morning, it paled and died. I was in trouble during those long weeks, and its brave struggle to round up its little life to completeness was more to me than many sermons; and on the morning of its grand coronation it sang me a little song."

May saw her mother's moistening eyes, and, putting her arms about her neck, said:

"O, what a dear, sweet, funny mother you are! What was the song it sang to you?"

"O, it was very simple—only this:

"Although my nature bids me rise—
While barren fate bends low to earth,
I'll borrow strength from kindly skies
To cheer the waste that gave me birth.
And then some passer-by, who notes
My little green and bloom, may learn
That hampered life and thwarted hopes
Must still to worthy effort turn.
If lofty aims for highest good
Be dwarfed within a narrow span—
If held from doing what we would,
We'll still accomplish what we can."

"That was a brave little song indeed," said May. "But, mother, dear, I suspect nobody's ears but yours could have heard it. I shall commit it to memory for your sweet sake."

"For your own sake, dear—you are always wanting to get up—up like the Morning Glory vine; forgetting the little duties that lie along your daily life. For instance, your Canary bird hanging here would have famished long ago had I not sometimes attended to his needs after you had gone to school. There's your bell now; but where is Charlie?"

"Oh, I suppose he's with his fancy Gourd vines, as usual. He has commenced training them to perfection, and thinks he'll get a premium at the county fair. I think the agricultural board for awarding prizes this year to boys under sixteen must have lazy sons of their own."

"Not necessarily, unless it be a rule that boys—nor girls either—can do nothing effectually without the prospect in view of personal reward."

"There, there! that will do—it is school time. Good-bye." In just six weeks from this time came the family across the way. We will conclude this article next month.—AUNT MARJORIE.

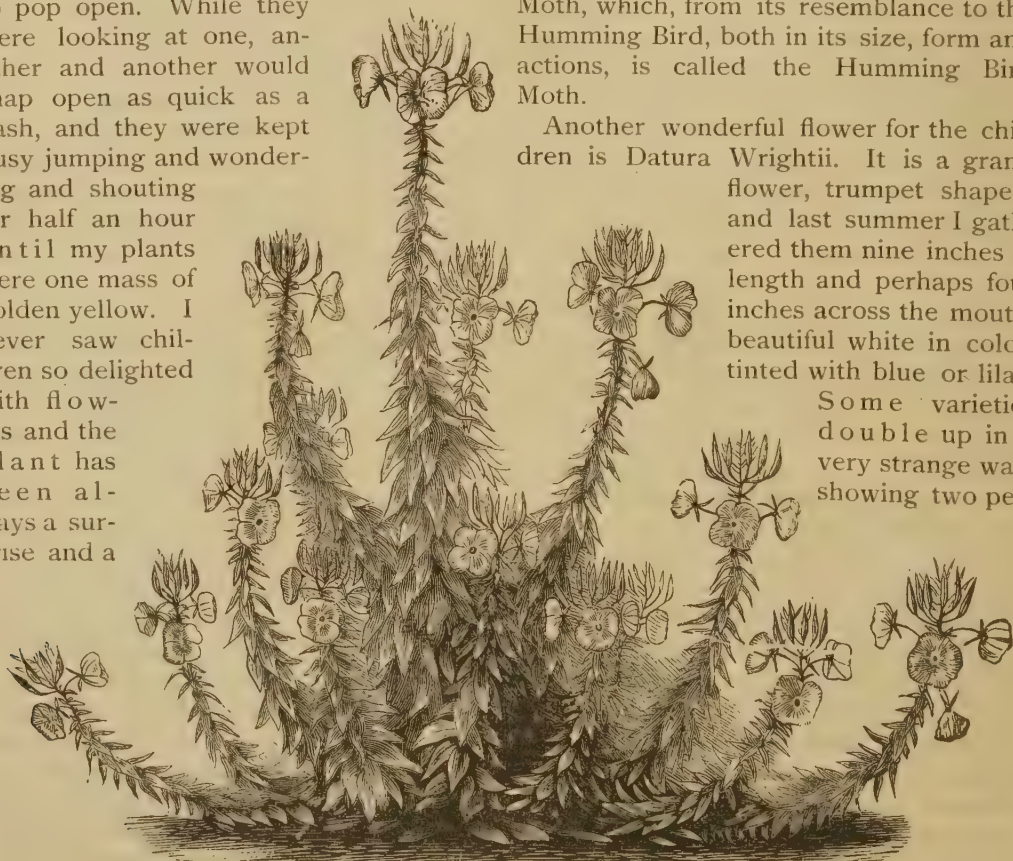
THE CHILDREN'S GARDEN.

One evening, I had a pleasant little surprise party for the children in my garden, an evening floral exhibition, and the greater part of my pleasure now is with the garden and the children. I had grown with some care about half a dozen plants of the large Evening Primrose, called *Oenothera Lamarckiana*. These plants were large and vigorous, standing, I think, four feet in height, as tall as some of the children and quite as much in diameter. I mean four feet, and not the diameter of the children. When the plants had come nicely into bloom I invited the children to take tea with me and spend an evening in the garden. I left them playing on the lawn while I quietly walked into the garden, to watch the opening of the flowers. At the right time, just a little after sunset, I called them to follow me, and the flowers began to pop open. While they were looking at one, another and another would snap open as quick as a flash, and they were kept busy jumping and wondering and shouting for half an hour until my plants were one mass of golden yellow. I never saw children so delighted with flowers and the plant has been always a surprise and a

great delight to me. At sunset not a flower is to be seen, only a coarse, dull plant, and for twenty minutes, perhaps, flower after flower suddenly opens, and it is easy to imagine that it is really a thing of life, and might walk off if it wished to. I counted, on one plant, eighty of its large flowers four inches across. With a five-cent paper of seeds any of the children can grow plants enough to supply a good many of the neighbors and have lots of fun.

There is another Evening Primrose not so striking as this that is very pretty. It grows close to the ground like a Dandelion. Its flowers are pure white and one or more open every evening. They are on short stems only a few inches in height, and about half the size of the *Lamarckiana*. They shine almost as bright as stars and are truly beautiful. This one is called *Oenothera acaulis alba*. While examining the flowers the children thought they had another and unexpected treat, for something like Humming birds were flying about in great numbers and sucking honey from the flowers, but on capturing one it proved to be a large Moth, which, from its resemblance to the Humming Bird, both in its size, form and actions, is called the Humming Bird Moth.

Another wonderful flower for the children is *Datura Wrightii*. It is a grand flower, trumpet shaped, and last summer I gathered them nine inches in length and perhaps four inches across the mouth, beautiful white in color, tinted with blue or lilac. Some varieties double up in a very strange way, showing two per-



OENOTHERA LAMARCKIANA PLANT.

fect flowers, one inside of the other. All this is curious and attracts very general attention. I always have a little patch of Feather Grass, and it is interesting, when the seeds are ripe, to set them floating in the air with their feathery attachment, always coming down so that the sharp point of the seed will stick in the soft earth, with its banner waving in triumph.

I see one of my boys, with the audaciousness of youth, hardly waiting until

the cardinal virtues in the young, though old people do not seem to have much of a monopoly of these things.

Flowers of the Cleome, with their curious stamens, sometimes nearly two inches in length, and thrown about in various shapes, always interest the children, and they call it Spiders' Legs. Not less attractive is the Nigella, which, from its singular construction, has acquired many strange names, but the prettiest is



OENOTHERA LAMARCKIANA FLOWER.

his grandfather had a chance to say a word, has written to you describing his garden, and actually forwarding some of its fruits in the shape of a bouquet of grasses. I am glad to see the boys active and earnest in this good work, even if they do not sometimes show excess of modesty. I suppose we must not look for all

Love-in-a-Mist. Perhaps no plant will canse more fun than that old climber, the Loasa. The flowers are curious and handsome, and the branches are covered with hairs that sting, when touched, not enough to hurt much, but sufficient to make one jump. — GRANDFATHER GRAY.

ROCKY MOUNTAIN PLANTS.

MR. VICK:—Almost a year ago my uncle sent me from California some seeds of a plant which he stated grew wild, and that he had gathered on the way; I think he stated that it was in Utah, though I am not quite sure, for I received three kinds of seeds and some of them grow in California. I sowed the seeds in spring, and soon the young plants came up. Some of the leaves were greenish, some almost white. They grew very fast, and by July were nice little bushes, two feet from the ground to the tops. Every leaf had a white stripe all around, and some of the smaller leaves were almost white, and some of the larger ones almost all green.

I waited a good while for the flowers, and hoped, as the leaves were so pretty, the flowers would be too, but they were



EUPHORBIA MARGINATA.

not bright nor large; small, in clusters and a yellowish green, sometimes almost white.

There never was a plant of this kind seen here, and lots of people looked at it and wanted seed or cuttings, for they thought it such a pretty plant, and that it would make a beautiful hedge or border, or for the center of a bed of ornamental-leaved plants. It did not, however, ripen any seed, and I guess died as soon as frost came. I send you pressed leaves and flowers. Please tell me what it is, and if the people can get seed in the East.—J. B. J.

The plant so well described, from Utah, is *Euphorbia marginata*, or Snow-on-the-Mountains, and grows in many places west of the Mississippi. Seed can be obtained of all seedsmen. We give a very good engraving of plant and flower.

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SWEET PEAS